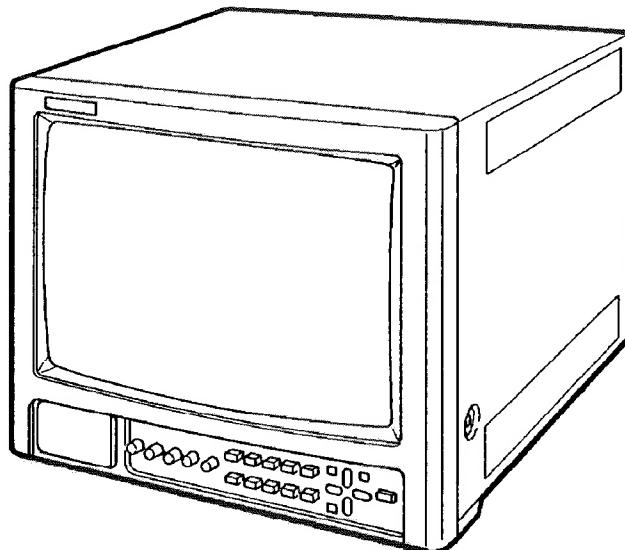


JVC

SERVICE MANUAL COLOUR VIDEO MONITOR

BM-1400PN-A_(A)

BASIC CHASSIS
BM



Since some details were changed so as to deal with SDI, we have issued the SERVICE MANUAL for BM-1400PN-A(A).

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SPECIFICATIONS

Item	Content
Color system	PAL / NTSC 3.58 / NTSC4.43
Picture tube	36cm measured diagonally, 90° deflection, in-line gun,
Screen size	medium - high - definition tinted cathode - ray tube, trio - dot type (dot pitch of 0.39mm)
Scanning frequency	P-22 phosphor 280 × 210 (W × H) H : 15.734kHz (NTSC 3.58 / 4.43), 15.625kHz (PAL) V : 59.94Hz (NTSC 3.58 / 4.43), 50Hz (PAL)
Horizontal resolution	620TV lines or more
Color temperature	6500K; x = 0.313, y = 0.329 9300K; x = 0.283, y = 0.297 (selectable)
Video inputs	
Composite video signal	INPUT A,B(2lines) : BNC × 2each (with 1 bridge-connected output) Termination switches provided 1.0Vp-p, 75Ω, negative sync
Y/C (1line)	Mini-DIN (4pin) × 2 (with 1 bridge-connected output) termination switches provided Y : 1.0Vp-p, 75Ω, negative sync C : 0.286Vp-p, 75Ω (NTSC), 0.3Vp-p 75Ω (PAL)
Analog RGB	RGB / COMPONENT(SDI) (1line : common with Y, R-Y, B-Y), BNC × 6 (with 3 bridge-connection outputs) termination switches provided R, B : 0.7Vp-p, 75Ω G : 0.7Vp-p, 75Ω Gonsync : 1.0Vp-p, 75Ω, negative sync
Y, R-Y, B-Y COMPONENT	RGB / COMPONENT(SDI) (1line : common with analog RGB) Y : 1.0Vp-p, 75Ω, negative sync R-Y, B-Y : 0.7Vp-p, 75Ω
External sync inputs	SYNC (1line) : BNC × 2 (with 1 bridge-connection output) 0.2~4.0Vp-p composite sync, 75Ω negative sync Termination switch provided
Audio inputs	AUDIO A, B RGB / COMPONENT (3lines) : RCA × 2each (with 1 bridge-connection output) 500mVrms, high impedance.
Audio power output	0.8W
Speaker	9 × 5cm oval × 1
Tally / Remote control	DIN (8pin) × 1
Power requirements	230V AC, 50/60 Hz
Power consumption	0.7A maximum
Operation temperature	0° ~ 40°C (20 ~ 80% RH)
Dimension	346 × 332 × 410mm (W × H × D)
Mass	16.2kg
SDI unit interface	The power supply of the monitor can be linked with that of the SDI unit. By employing the SDI unit, a SERIAL DIGITAL signal can be converted into an analog component signal. Because the SDI unit can be mounted at the back side of the monitor, the existing rack with ordinary height can be used as it is.

Design & specification subject to change without notice.

SAFETY PRECAUTIONS

1. The design of this product contains special hardware, many circuits and components specially for safety purposes. For continued protection, no changes should be made to the original design unless authorized in writing by the manufacturer. Replacement parts must be identical to those used in the original circuits. Service should be performed by qualified personnel only.
2. Alterations of the design or circuitry of the products should not be made. Any design alterations or additions will void the manufacturer's warranty and will further relieve the manufacturer of responsibility for personal injury or property damage resulting therefrom.
3. Many electrical and mechanical parts in the products have special safety-related characteristics. These characteristics are often not evident from visual inspection nor can the protection afforded by them necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in the parts list of Service manual. **Electrical components having such features are identified by shading on the schematics and by (▲) on the parts list in Service manual.** The use of a substitute replacement which does not have the same safety characteristics as the recommended replacement part shown in the parts list of Service manual may cause shock, fire, or other hazards.
4. **Don't short between the LIVE side ground and ISOLATED(NEUTRAL) side ground or EARTH side ground when repairing.**
Some model's power circuit is partly different in the GND. The difference of the GND is shown by the LIVE : (⊥) side GND, the ISOLATED(NEUTRAL) : (//) side GND and EARTH : (⊕) side GND. Don't short between the LIVE side GND and ISOLATED(NEUTRAL) side GND or EARTH side GND, and never measure with a measuring apparatus (oscilloscope, etc.) the LIVE side GND and ISOLATED(NEUTRAL) side GND or EARTH side GND at the same time.
If above note will not be kept, a fuse or any parts will be broken.
5. If any repair has been made to the chassis, it is recommended that the B1 setting should be checked or adjusted (See ADJUSTMENT OF B₁, POWER SUPPLY).
6. The high voltage applied to the picture tube must conform with that specified in Service manual. Excessive high voltage can cause an increase in X-Ray emission, arcing and possible component damage, therefore operation under excessive high voltage conditions should be kept to a minimum, or should be prevented. If severe arcing occurs, remove the AC power immediately and determine the cause by visual inspection (incorrect installation, cracked or melted high voltage harness, poor soldering, etc.). To maintain the proper minimum level of soft X-Ray emission, components in the high voltage circuitry including the picture tube must be the exact replacements or alternatives approved by the manufacturer of the complete product.
7. Do not check high voltage by drawing an arc. Use a high voltage meter or a high voltage probe with a VTVM. Discharge the picture tube before attempting meter connection, by connecting a clip lead to the ground frame and connecting the other end of the lead through a $10k\Omega$ 2W resistor to the anode button.
8. When service is required, observe the original lead dress. Extra precaution should be given to assure correct lead dress in the high voltage circuit area. Where a short circuit has occurred, those components that indicate evidence of overheating should be replaced. Always use the manufacturer's replacement components.

9. Isolation Check

(Safety for Electrical Shock Hazard)

After re-assembling the product, always perform an isolation check on the exposed metal parts of the cabinet (antenna terminals, video/audio input and output terminals, Control knobs, metal cabinet, screwheads, earphone jack, control shafts, etc.) to be sure the product is safe to operate without danger of electrical shock.

(1) Dielectric Strength Test

The isolation between the AC primary circuit and all metal parts exposed to the user, particularly any exposed metal part having a return path to the chassis should withstand a voltage of 3000V AC (r.m.s.) for a period of one second.
(... Withstand a voltage of 1100V AC (r.m.s.) to an appliance rated up to 120V, and 3000V AC (r.m.s.) to an appliance rated 200V or more, for a period of one second.)
This method of test requires a test equipment not generally found in the service trade.

(2) Leakage Current Check

Plug the AC line cord directly into the AC outlet (do not use a line isolation transformer during this check.). Using a "Leakage Current Tester", measure the leakage current from each exposed metal part of the cabinet, particularly any exposed metal part having a return path to the chassis, to a known good earth ground (water pipe, etc.). Any leakage current must not exceed 0.5mA AC (r.m.s.).

• Alternate Check Method

Plug the AC line cord directly into the AC outlet (do not use a line isolation transformer during this check.). Use an AC voltmeter having 1000 ohms per volt or more sensitivity in the following manner. Connect a 1500Ω 10W resistor paralleled by a $0.15\mu F$ AC-type capacitor between an exposed metal part and a known good earth ground (water pipe, etc.). Measure the AC voltage across the resistor with the AC voltmeter. Move the resistor connection to each exposed metal part, particularly any exposed metal part having a return path to the chassis, and measure the AC voltage across the resistor. Now, reverse the plug in the AC outlet and repeat each measurement. Any voltage measured must not exceed 0.35V AC (r.m.s.). This corresponds to 0.5mA AC (r.m.s.).

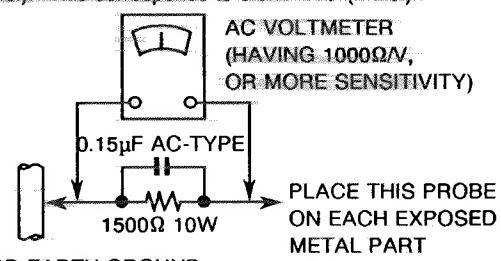


Fig.A

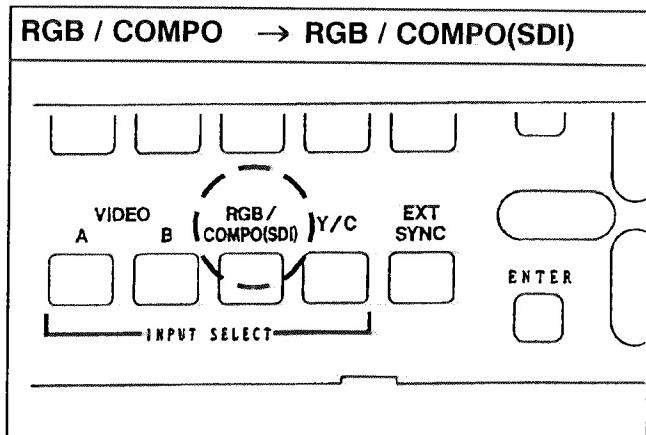
HOW TO IDENTIFY THE MODEL

BM-1400PN-A(A)

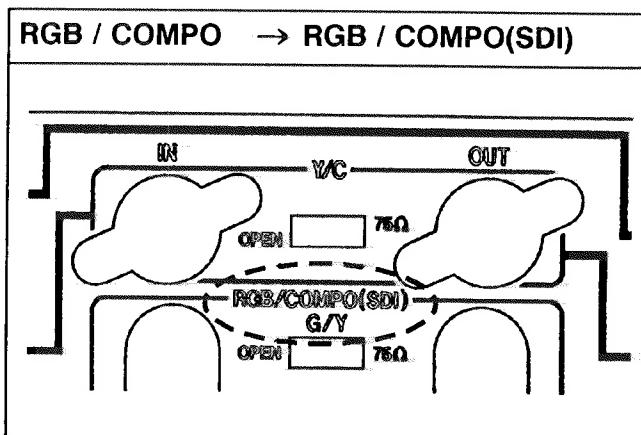
Model number is indicated following items.

Please use this SERVICE MANUAL for the unit with the model No.of BM-1400PN-A(A).

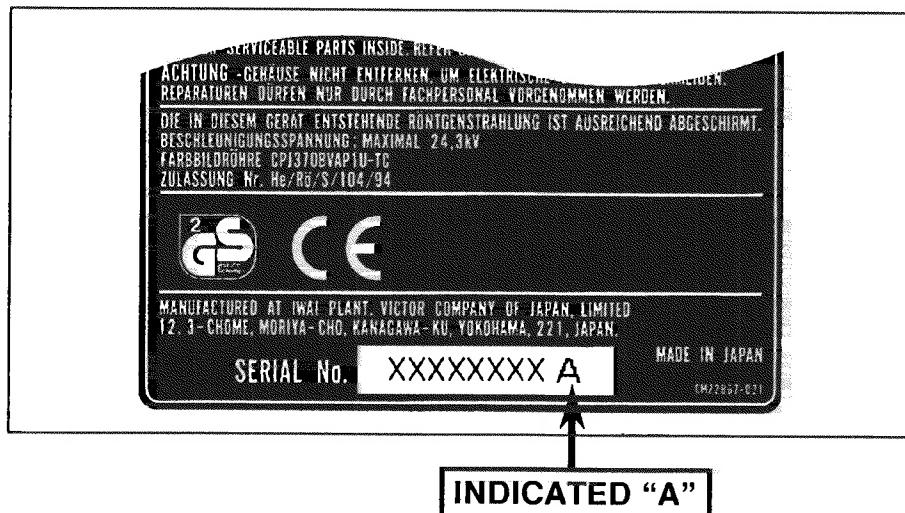
■ THE CHANGING OF THE INDICATION THAT FRONT CONTROL PART



■ THE CHANGING OF THE INDICATION THAT REAR TERMINAL PART



■ THE CHANGING OF THE INDICATION IN THE RATING LABEL



■ MAIN DIFFERENCE LIST BETWEEN BM-1400PN-A AND BM-1400PN-A(A)

PARTS NAME \ MODEL	BM-1400PN-A	BM-1400PN-A(A)	Description
MICOM PWB	FX-5017A	FX-5018A	Not Interchangeable
INPUT PWB	FX-6046A	FX-6052A	Not Interchangeable
CONTROL SHEET	CM35943-001	CM35943-002	Not Interchangeable
TERMINAL SHEET	CM35944-A01	CM35944-A02	Not Interchangeable
SDI LABEL	—	CP40344-001	Not Interchangeable

OPERATING INSTRUCTIONS

[BM-H2000PN (A) / BM-H1400PN (A)
BM-1400PN-A (A)]



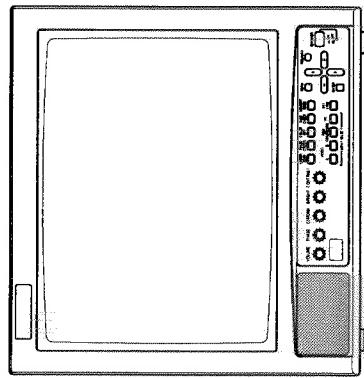
BM-H2000PN/BM-H1400PN/BM-1400PN-A COLOUR VIDEO MONITOR

COLOUR VIDEO MONITOR

BEDIENUNGSANLEITUNG : FARB-VIDEO-MONITOR
MANUEL D'INSTRUCTIONS : MONITEUR VIDEO COULEUR
MANUALE DIISTRUZIONI : MONITOR VIDEO A COLORI
INSTRUCCIONES : MONITOR DE VIDEO A COLOR

INSTRUCTIONS

BM-H2000PN
BM-H1400PN
BM-1400PN-A



Printed in Japan
CQ40028-004
1096-TU-V-YP



SAFETY PRECAUTIONS

Thank you for purchasing this JVC colour video monitor. Before using it, read and follow all instructions carefully to take fullest advantage of the monitor's performance.

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FEATURES	
For multiple applications with various video systems; equipped with external source	
component terminals that can be bridge-connected	
■ Compatible with NTSC/3.58/4.43 MHz or PAL colour systems.	
■ The BM-H2000PN has a medium-high-definition picture tube that reproduces pictures with a horizontal resolution of 750 TV lines or more.	
The BM-H1400PN has a high-definition picture tube that reproduces pictures with a horizontal resolution of 620 TV lines or more.	
The BM-1400P-A has a medium-high-definition picture tube that reproduces pictures with a horizontal resolution of 620 TV lines or more.	
■ Auto white-balance stabiliser (UK feedback circuit) maintains stable colour reproduction over long-term use.	
■ A range of flexible functions includes picture aspect ratio switching (between 4:3 and 16:9), memory mode and control lock.	
■ Optional exclusive wireless remote control unit enables individual operation and adjustment of up to 99-unit monitors.	

In order to prevent any fatal accidents caused by misoperation or mishandling of the monitor, be fully aware of all the following precautions.

WARNINGS

To prevent fire or shock hazard, do not expose this monitor to rain or moisture. Dangerous high voltages are present inside the unit. Do not remove the back cover of the cabinet. When servicing the monitor, contact qualified service personnel. Never try to service it yourself.

Machine Noise Information Ordinance 3 GSGV, January 18, 1991: The sound pressure level at the operation position is equal or less than 70 dB(A) according to ISO 7779.

Improper operations, in particular alteration of high voltage or changing the type of tube may result in x-ray emission of considerable dose. A unit altered in such a way no longer meets the standards of certification, and must therefore no longer be operated.

PRECAUTIONS

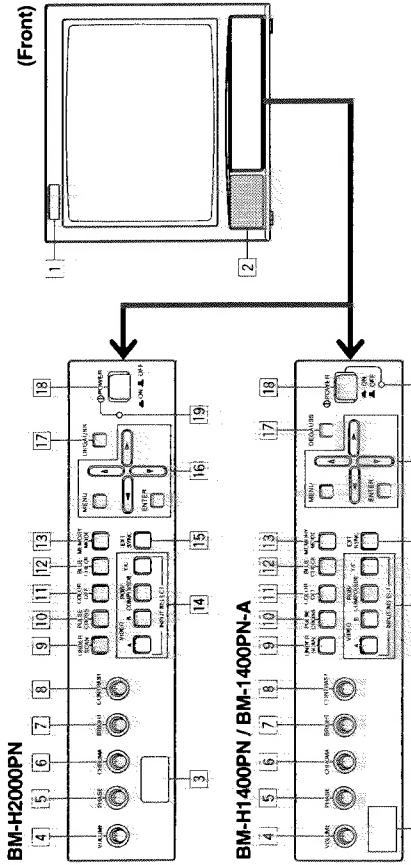
- Use only the power source specified on the unit.
- When not using this unit for a long period of time, or when cleaning it, be sure to disconnect the power plug from the AC outlet.
- Do not allow anything to rest on the power cord. And do not place this unit where people will tread on the cord.
- Do not overload wall outlets or power cords as this can result in a fire or electric shock.
- Avoid using this unit under the following conditions:
 - in extremely hot, cold or humid places,
 - in dusty places,
 - near appliances generating strong magnetic fields,
 - in places subject to direct sunlight,
 - in badly ventilated places,
 - in automobiles with doors closed.
- Do not cover the ventilation slots while in operation as this could obstruct the required ventilation flow.
- When dust accumulates on the screen surface, clean it with a soft cloth.
- Unplug this unit from the AC outlet and refer servicing to qualified service personnel under the following conditions:
 - if it is not recommended to keep a certain still image displayed on screen for a long time as well as displaying extremely bright images on screen. This may cause a burning (sticking) phenomenon on the screen of cathode-ray tube. This problem does not occur as far as displaying normal video playback motion images.

SCREEN BURN

- It is not recommended to keep a certain still image displayed on screen for a long time as well as displaying extremely bright images on screen. This may cause a burning (sticking) phenomenon on the screen of cathode-ray tube. This problem does not occur as far as displaying normal video playback motion images.

This manual is divided into five language sections:
English, German, French, Italian and Spanish.
English Pages 2 to 23
German Pages 24 to 45
French Pages 46 to 67
Italian Pages 68 to 89
Spanish Pages 90 to 111

CONTROLS AND FEATURES (FRONT)



- ⑪ COLOR OFF switch**: Push to eliminate colour signals and display a black-and-white picture.
- ⑫ BLUE CHECK switch**: Push to eliminate red and green colour signals and display a monochrome blue picture.
- ⑬ MEMORY MODE switch**: Push to adjust the picture by recalling the adjustment data that you stored in memory.
- ⑭ INPUT SELECT switches**: Push to select a rear terminal video signal input.
- ⑮ EXT SYNC switch**: Push to synchronise the monitor with an external sync signal. This function is effective regardless of signal input.
- ⑯ MENU controls**: Use to operate on-screen menu functions.
- ⑰ DEGAUSS switch**: Push to demagnetise the picture tube.
- ⑱ POWER switch**: Press to turn the power on or off.
- ⑲ POWER indicator**: Glows to indicate that power is on.

⑳ RGB/COMPO(SDI) terminals
Input terminal of analogue RGB signals or Y/B-Y/R-Y signals and bridge-connected output terminal. Linked with the VIDEO A terminals so that AUDIO A terminals and VIDEO A terminals are selected simultaneously.

㉑ AUDIO A terminals
Audio signal input terminal and bridge-connected output terminal. Linked with the VIDEO A terminals so that AUDIO A terminals and VIDEO A terminals are selected simultaneously.

㉒ AUDIO B terminals
Audio signal input terminal and bridge-connected output terminal. Linked with the VIDEO B or Y/C terminals so that AUDIO B terminals and VIDEO B or Y/C terminals are selected simultaneously.

㉓ AUDIO RGB/COMPO(SDI) terminals
Audio signal input terminal and bridge-connected output terminal. Linked with the RGB/COMPO(SDI) terminals so that AUDIO B terminals and RGB/COMPO(SDI) terminals are selected simultaneously.

㉔ FOCUS control
Adjustment hole exclusively for use by service personnel. Make sure to consult qualified service personnel for adjustment.

㉕ TALLY/REMOTE terminal
External input terminal of a tally signal to make the tally lamp glow, or of a remote-control signal to switch input or picture control.

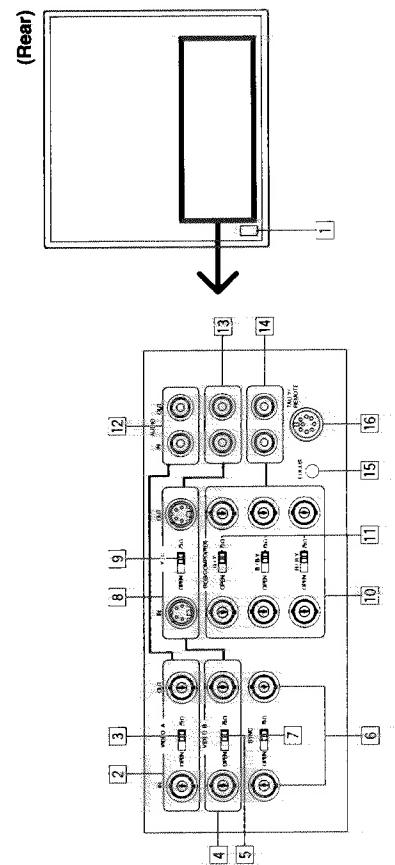
㉖ Y/C termination switch
Functions as for ㉓.

㉗ SYNC termination switch
Functions as for ㉓.

㉘ Y/C terminals
Input terminal of Y/C signals and bridge-connected output terminal.

㉙ Y/C termination switch
Functions as for ㉓.

TERMINALS AND FEATURES (REAR)

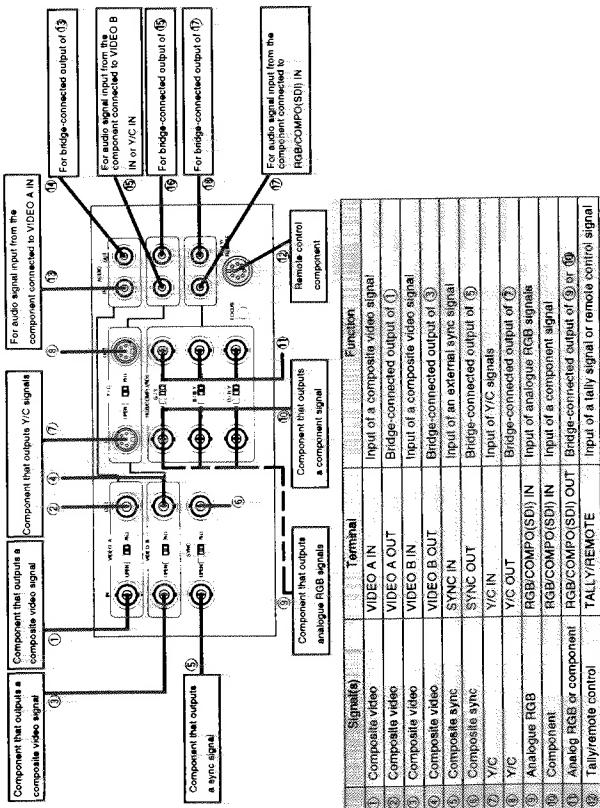


- ㉑ RGB/COMPO(SDI) termination switch**: Functions as for ⑩.
- ㉒ AUDIO A terminals**: Audio signal input terminal and bridge-connected output terminal. Linked with the VIDEO A terminals so that AUDIO A terminals and VIDEO A terminals are selected simultaneously.
- ㉓ AUDIO B terminals**: Audio signal input terminal and bridge-connected output terminal. Linked with the VIDEO B or Y/C terminals so that AUDIO B terminals and VIDEO B or Y/C terminals are selected simultaneously.
- ㉔ AUDIO RGB/COMPO(SDI) terminals**: Audio signal input terminal and bridge-connected output terminal. Linked with the RGB/COMPO(SDI) terminals so that AUDIO B terminals and RGB/COMPO(SDI) terminals are selected simultaneously.
- ㉕ FOCUS control**: Adjustment hole exclusively for use by service personnel. Make sure to consult qualified service personnel for adjustment.
- ㉖ TALLY/REMOTE terminal**: External input terminal of a tally signal to make the tally lamp glow, or of a remote-control signal to switch input or picture control.

CONNECTION EXAMPLE



- Be sure to turn off each component's power before connection.
- The connection shown below is only an example. Terminals and their functions differ in accordance with a component to be connected. Also read and follow the instructions for the component.



External/internal synchronisation

Push the front panel EXT SYNC switch to ON, and the monitor operates to synchronise with an external sync signal input to the rear panel SYNC IN terminal.

Push the switch again to OFF, and the monitor operates to synchronise with a sync signal included in a video signal (if it includes a sync signal) input via a video input terminal.

RGB/COMPO(SDI) terminal setting

Set RGB or COMPO. on screen to match the type of video signal input to the rear panel RGB/COMPO(SDI) IN terminals.

To input analogue RGB signals, set to RGB.
To input Y, B-Y or R-Y signals, set to COMPO..

Operation:

1. Press the front panel MENU button to call up the MENU display on screen.
2. Press the ▲ or ▼ button to select RGB/COMPO(SDI).
3. Press the ◀ or ▶ button to set RGB or COMPO..
4. Press the MENU button to complete.

BASIC OPERATION

1. To turn the power on: Push the POWER switch.

The POWER indicator glows green. The mode and colour system of an input signal are automatically discerned and displayed on screen for about 3 seconds. To turn off power, push the POWER switch again, and the POWER indicator goes off.

2. To select the input: Push an INPUT SELECT switch.

Push VIDEO A, VIDEO B, RGB/COMPO(SDI) or Y/C. The mode and colour system of a selected input signal are automatically discerned and displayed on screen for about 3 seconds.

3. To adjust the audio level:

Turn the VOLUME control to the right to increase the level, or to the left to decrease the level.

● Relation between input mode indication and signal input/terminal

Input mode indication	Signal input/terminal
VIDEO A	Composite video signal input to VIDEO A IN
VIDEO B	Composite video signal input to VIDEO B IN
Y/C	Y/C signal input to Y/C IN
RGB	Analogue RGB signal input to RGB/COMPO(SDI) IN
COMPO(SDI)	Component signal input to RGB/COMPO(SDI) IN

● Colour system indication

Indication	Colour system	Colour sub-carrier frequency	Vertical scanning frequency
NTSC		3.58 MHz	60 Hz
PAL		4.43 MHz	50 Hz
N4.43	NTSC	4.43 MHz	60 Hz
BW			Indicates when a black-and-white signal is input
NO SYNC			Indicates when no signal is input

To demagnetise the picture tube

After positioning near the monitor a speaker (non-magnetic shielded) or other equipment that generates a strong magnetic field, or after relocating the monitor, colour patches could appear in the picture due to magnetisation of the picture tube. If this occurs, push the DEGAUSS switch to demagnetise the picture tube.



- This function is not effective if activated a second time after a very short time has elapsed. When degaussing must be repeated, proceed after at least 10 minutes have passed since first degaussing.
- The optional wireless remote control features a DEGAUSS key.

[MENU]	ASPECT RATIO : 4:3
FILTER SELECT : COMB	PEAKING FREQ : 2.6MHz
PEAKING LEVEL : 0dB	AFC : NORMAL
COLOR TEMP : 5600	NTSC SETUP : 0
(MEMORY MODE) : RGB	RGB / COMPO(SDI) : ■

PICTURE ADJUSTMENTS

Turn a separate front panel control to adjust picture contrast, picture brightness, picture colour density, and picture hue respectively:

CONTRAST (picture contrast)

 Softer  Clearer

BRIGHT (picture brightness)

 Darker  Brighter

CHROMA (picture colour density)

 Thinner  Denser

PHASE (picture hue)

 Purplish  Greenish

Relation between picture adjustments and input video signals —
Each picture adjustment is effective for the following video signal input:

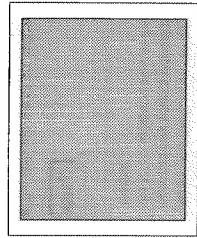
Signal	Composite video, Y/C	NTSC	PAL	NTSC 4.43	B/W	RGB	COMPONENT
CONTROL		No	Yes	No	No	No	No
PHASE	Yes	No	Yes	No	No	Yes	
CHROMA	Yes	Yes	Yes	No	No	Yes	
BRIGHT	Yes	Yes	Yes	Yes	Yes	Yes	
CONTRAST	Yes	Yes	Yes	Yes	Yes	Yes	Yes

VIDEO SIGNAL CONTROLS

Push each switch to ON or OFF for video signal control.

UNDER SCAN

Push the UNDER SCAN switch to reduce the dimensions of display area so the whole picture is displayed on screen. Use to check the picture frame.



PULSE CROSS

Push the PULSE CROSS switch to simultaneously display two blank areas crossed horizontally and vertically on screen ("Pulse Cross" display) by delaying the phase of the input signal. Use to check the vertical retrace line period, equalizing pulse period, horizontal sync pulse, or burst signal.



- To adjust the CHROMA and PHASE controls more precisely, input the colour bar signal and operate the BLUE CHECK function as follows:

After inputting the colour bar signal, push the front panel BLUE CHECK switch to display a monochrome blue picture without red/green signal components. Turn the CHROMA and PHASE controls so that all (four, in the example below) blue bars have the same density and brightness.

COLOR OFF

Push the COLOR OFF switch to display a black-and-white picture by inputting a luminance signal only. Use to check the noise contained in a luminance signal or white balance.

Blue	Black	Blue	Blue
Blue	Black	Blue	Blue
Blue	Black	Blue	Blue
Blue	Black	Blue	Blue

BLUE CHECK

Push the BLUE CHECK switch to display a monochrome blue picture by eliminating red and green signal components. Use to check or adjust the CHROMA and/or PHASE controls.

Signal	Composite video, Y/C	NTSC	PAL	NTSC 4.43	B/W	RGB	COMPONENT
CONTROL		No	Yes	No	No	No	No
PHASE	Yes	No	Yes	No	No	Yes	
CHROMA	Yes	Yes	Yes	No	No	Yes	
BRIGHT	Yes	Yes	Yes	Yes	Yes	Yes	
CONTRAST	Yes	Yes	Yes	Yes	Yes	Yes	Yes

ON-SCREEN MENU CONTROLS

ON-SCREEN MENU CONTROLS (continued)

By calling up the menu display on screen, various functions can be selected and set as needed.



Calling up the menu display, selecting an item

- Press the MENU button to call up the menu display on screen (see [1] below). (Press again to make the display disappear.)
- Press the ▲ or ▼ button to select an item to be set. "►" is indicated for the selected item.
- Press the ▲ or ▼ button to change the setting.
- After selecting another item by pressing the ▲ or ▼ button, repeat step 3. These settings are all kept in memory after power is turned off.
- Press the MENU button to complete. The menu display disappears.



When the menu display [1] (shown at left below) is on screen, the display changes to [2] (shown below centre). In this state, you can also select the item or change the setting.

When the display [2] is on screen, each time the ▲ button is pressed while the ENTER button is pressed, the indication moves up or down on screen (the display [3]). Press the MENU button with display [2] or [3] on screen, and the display is restored to [1].

If no operation occurs for about 5 minutes after calling up the menu display on screen, the display disappears automatically.

[1]		:NORMAL
[2]		:AFC
[3]		:AFC :NORMAL
		③



ASPECT RATIO (picture aspect ratio switching)

The aspect ratio of the picture can be switched between 4:3 and 16:9. When switching to "16:9" on screen, the height of the picture is slightly reduced (see right).



FILTER SELECT (built-in filter selection)

When a composite video signal of the NTSC system (excluding NTSC 4:3) is input to the monitor, either or both of two filters in the monitor can be activated.

Setting	Function
4:3	Standard picture aspect ratio (4:3)
16:9	Displays the picture in 16:9 aspect ratio



COMPO. LEVEL (chrominance level setting)

When a composite video signal of the NTSC system (excluding NTSC 4:3) is input to the monitor, either or both of two filters in the monitor can be activated.

Setting	Function
COMB (comb filter)	Reduces colour noise in NTSC video signals for clearer pictures.
BOTH (both filters)	Both comb and trap filters function at the same time.
NOTCH (Trap filter)	Eliminates dot interference that would show up in the vertical boundary between two different colours.



PEAKING FREQ./PEAKING LEVEL (picture quality improvement)

Corrects the luminance signal to improve picture quality by changing peak frequency and/or peak level depending on the video signal input to the monitor. Use PEAKING FREQ. to set correction frequency. Use PEAKING LEVEL to set correction level.

Setting (frequency)	Function
2.6 MHz	For composite video signal or Y/C signal.
5.0 MHz	For component video signal.

Setting (level)	Function
0 dB to +9 dBs	Set a higher level for correction to a higher degree.



By changing the default setting of white balance adjustment under the SET-UP MENU display (see page 15 for adjustment), the * indication is added to the right of the setting to indicate that the factory-preset setting was changed.

Setting	Function
NORMAL	Normal-speed correction.
FAST	Faster correction.
SLOW	Slower correction.



The item and setting are indicated on screen and the function can be operated only when a video signal of the NTSC system is input to the monitor.



Use to set the chrominance level to match the configuration of the video signal input to the monitor.

Setting	Function
9300	To 9300K
6500	To 6500K



Use to set the luminance signal level to match the configuration of the video signal input to the monitor.

Setting	Function
0	For video signal with 0% luminance signal.
7.5	For video signal with 7.5% luminance signal.



Use to set the chrominance level of a component video signal.

Setting	Function
SMpte	For component video signal input via a MII videotape recorder.
BETA00	For component video signal input (set-up level: 0%) via a BETACAM videotape recorder.
BETA75	For component video signal input (set-up level: 7.5%) via a BETACAM videotape recorder.

MEMORY MODE

A set of picture settings can be programmed in memory for quick recall when necessary.

Recall/release of memory mode

Press the MEMORY MODE switch to recall a set of picture settings programmed in memory.

Pressing the switch locks the functions of the front-panel PHASE, CHROMA, BRIGHT, CONTRAST controls, and remote-control picture adjustments not to be operated. Press again to release memory mode.

3. Press the ▲ or ▼ button to select a function to be revised.

NOTE

- If you attempt to operate a locked function, "MEMORY MODE ON!" appears on screen for approx. 2 seconds to indicate the function cannot be operated.

Setting programming of the picture being monitored —
The settings of the picture being monitored can be programmed in memory.

Settings programmable in memory mode:

- Settings of the CONTRAST, BRIGHT, CHROMA and PHASE controls on the front panel
- On-screen menu function settings (except RGB/COMPO(SDI))
- Remote-control picture adjustment settings

1. Check the MEMORY MODE switch is off.
2. Press the MENU button.
3. Press the ▲ or ▼ button to select MEMORY MODE.
- Then press the ENTER button.
4. • Press the ENTER button to programme.
- Press the ▲ or ▼ button to cancel.

Revision of memory mode —
Programmed picture settings can be revised if necessary.

1. Press the MEMORY MODE switch to activate memory mode.
2. Press the MENU button to call up display [1] on screen.

MEMORY MODE (continued)

3. Press the ▲ or ▼ button to change the set level.

Adjustable CONTRAST, BRIGHT, CHROMA or PHASE range depends on each set level previously stored in memory. MAX appears to indicate maximum level that cannot be increased. MIN appears to indicate minimum level that cannot be decreased.

4. Press the ▲ or ▼ button to change the set level.

Variable setting range

Function	Variable setting range	Default set level
PICTURE CONTRAST	-20 to +20	0
BRIGHT	-20 to +20	0
CHROMA	-20 to +20	0
PHASE	-20 to +20	0
ASPECT RATIO	4:3 16:9	4:3
FILTER SELECT	COMB BOTH NOTCH	COMB
PEAKING FREQ	2.6MHz 5.0MHz	2.6MHz
PEAKING LEVEL	0dB +1dB ... +9dB	0dB
AFC	NORMAL FAST SLOW	NORMAL
COLOR TEMP	9300 6500	6500
NTSC SET UP	0 7.5	0
COMPO. LEVEL	SMPTE BETAF00 BETA75 SMPTE	SMPTE

- No matter what video signal is input, all items appear on screen. However, depending on the type of input video signal, some functions might not operate even if their settings are made.

<MEMORY MODE REVISE>	
► PICTURE ADJUSTMENT	
ASPECT RATIO	:4:3
FILTER SELECT	:COMB
PEAKING FREQ	:2.6MHz
PEAKING LEVEL	:0dB
AFC	:0dB
COLOR TEMP.	:NORMAL
NTSC SET UP	:3500
COMPO. LEVEL	:SMPTE

5. With display [1] on screen, press the MENU button to make display [3] appear.

- Press the ENTER button to programme.
- Press the ▲ or ▼ button to cancel.

Are you sure?
"Yes" then
"No" then

[3]

SET-UP FOR MONITOR INSTALLATION (continued)

PICTURE SETTING INITIALISATION

MENU and/or SET-UP MENU settings including added changes can be reset (initialised) to their factory-preset conditions.

STATUS DISPLAY (setting the status display to on/off)

When the power is turned on or the input mode is switched, the status display (colour system and input mode) appears on screen. The display can be set to on or off.

Setting	Function
ON	Status display appears.
OFF	Status display does not appear.

CONTROL LOCK (deactivation of front-control functions)

Set CONTROL LOCK to ON on screen to deactivate the front-control functions (front VOLUME control and remote volume control are operable).

Setting	Function
ON	Deactivates the front controls (except front/remote volume controls).
OFF	Releases deactivated functions.

To initialise MENU settings only

MENU settings (except MEMORY MODE and RGB/COMPO(SDI)) can be exclusively reset:

- With the ▶ button pressed, press the MENU button to display [1] on screen.
- Press the ENTER button to reset.
 - Press the ▲ or ▼ button to cancel.

● MENU and PICTURE ADJUST settings (except MEMORY MODE and RGB/COMPO(SDI)) can also be simultaneously reset via the optional wireless remote control unit:

- Press the MENU key to display MENU on screen.
- Press the RESET key to execute.



● For factory-preset on the MENU settings, see page 21.

<MENU> RESET

Are you sure?
"Yes" then
"No" then or

[1]

● MENU and PICTURE ADJUST settings (except MEMORY MODE and RGB/COMPO(SDI)) can be reset at the same time. In this case, PICTURE ADJUST settings via remote control are also reset, and the monitor's ID number is also reset to 00.

- Press the POWER switch to turn the power off.
- With the ▶ and MENU buttons pressed, press the POWER switch to turn the power on. Keep pressing the ▶ and MENU buttons until [2] appears on screen.
- Press the ▲ or ▼ button to select SET-UP MENU RESET. Then press the ENTER button to display [3] on screen.
- Press the ENTER button again to execute.
 - Press the ▲ or ▼ button to cancel.



Are you sure?
"Yes" then
"No" then or

[2]

<SET-UP MENU> RESET

Are you sure?
"Yes" then
"No" then or

[3]

REMOTE CONTROLS

The optional wireless remote control unit (RM-C550W) operates the following:

- On-screen menu functions (MENU, SET-UP MENU, etc.)
- Picture adjustments (CONTRAST, BRIGHT, CHROMA, PHASE)
- Sound adjustments (VOLUME, MUTE)

On-screen menu remote operation

Remote keys and front controls with the same designation share the common functions. For detailed operation, see instructions about each menu function in this manual.

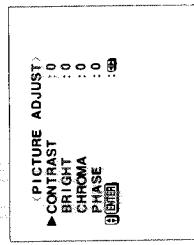


Picture adjustments

Each adjustable range depends on the setting of the front CONTRAST/ BRIGHT/CHROMA or PHASE control. If an adjustment is made via remote control with the front control set approximately to the maximum or minimum, the level may indicate a certain change on screen but may not actually increase or decrease.

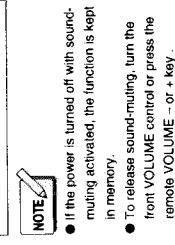
1. Press the PICTURE key to display PICTURE ADJUST.
2. Press the ▲ or ▼ key to select an item.
3. Press the ▶ or ▷ key to change the level:
 - ◀ : Moves the cursor to left (to decrease the level).
 - ▶ : Moves the cursor to right (to increase the level).
4. Press the ▲ or ▼ key to another item and repeat step 3.
5. Press the PICTURE key to complete.

- To standardise all settings on PICTURE ADJUST:
After step 1, press the RESET key.



● Each time the PICTURE key is pressed, the previous display is restored.

VOLUME: -01



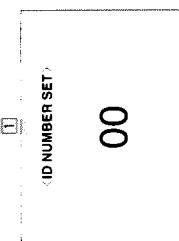
● Muting activated, the function is kept in memory.
● To release sound-muting, turn the front VOLUME control or press the remote VOLUME - or + key.

EACH REMOTE CONTROL OF PLURAL MONITORS

To operate or adjust plural units of monitors, by programming and assigning an ID number (00 to 99) for each monitor, a specified monitor can be remote-controlled.

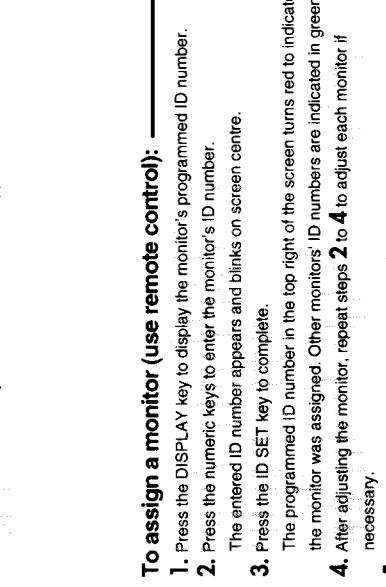
To programme an ID number (use front controls):

1. Press the POWER switch to turn the Power off.
2. With the ▾ and MENU buttons pressed, press the POWER switch to turn the power on. Keep pressing the ▾ and MENU buttons until [1] appears.
3. Press the ▲ or ▾ button to select ID NUMBER SET. Then press the ENTER button to display [2].
4. Select an ID number.
 - Press the ▲ button to increase.
 - Press the ▾ button to decrease.
5. Press the ENTER button to programme.



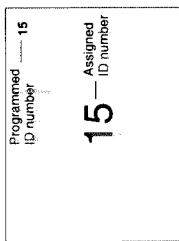
To call up an ID number (use remote unit):

1. Press the DISPLAY key to indicate a programmed ID number at top right of the screen.
2. Red-indicated ID number:
 - Red-indicated ID number: indicates the monitor can be remote-controlled.
 - Green-indicated ID number: indicates the monitor cannot be remote-controlled.
2. Press the DISPLAY key to make the number disappear.



To assign a monitor (use remote control):

1. Press the DISPLAY key to display the monitor's programmed ID number.
2. Press the numeric keys to enter the monitor's ID number.
 - The entered ID number appears and blinks on screen centre.
3. Press the ID SET key to complete.
 - The programmed ID number in the top right of the screen turns red to indicate the monitor was assigned. Other monitors' ID numbers are indicated in green.
4. After adjusting the monitor, repeat steps 2 to 4 to adjust each monitor if necessary.
5. Press the DISPLAY key to clear on-screen ID numbers.



Sound adjustments

A variable range depends on the setting of the front VOLUME control. If audio level is remote-controlled with front VOLUME control set approximately to the maximum or minimum, the level may indicate a certain change on screen but may not actually increase or decrease.

- Press the VOLUME - or + key to decrease or increase the level (within ±20).
- Press the MUTE key to mute the sound. MUTE appears on screen for approx. 3 seconds. Press again to release.

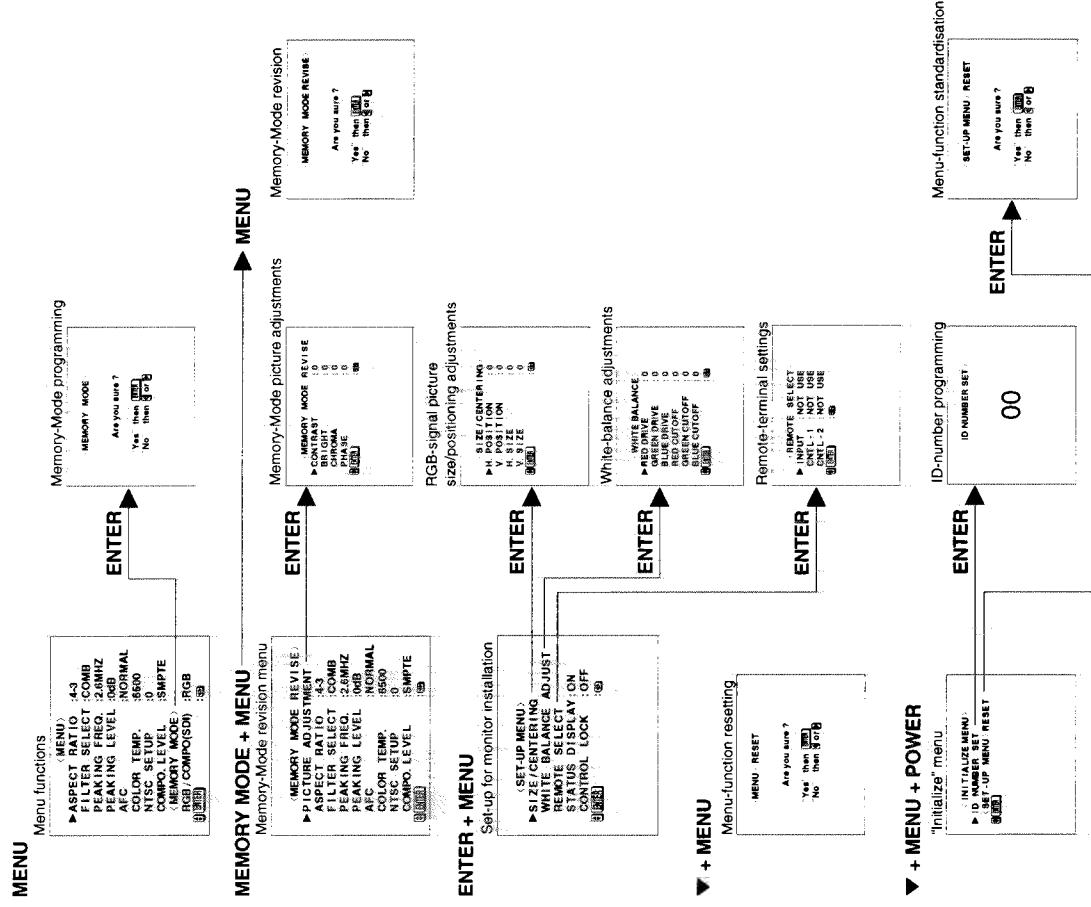
BEFORE CALLING FOR SERVICE

Before concluding a problem has occurred, check the following points. If the problem persists after carrying out the checks, disconnect the power cord from the AC outlet and consult the dealer from whom you purchased the monitor.

MENU DISPLAY CHART

Adjustments or settings preset at the factory are shown in the menus.
For PICTURE ADJUST MENU via remote control, see page 18.

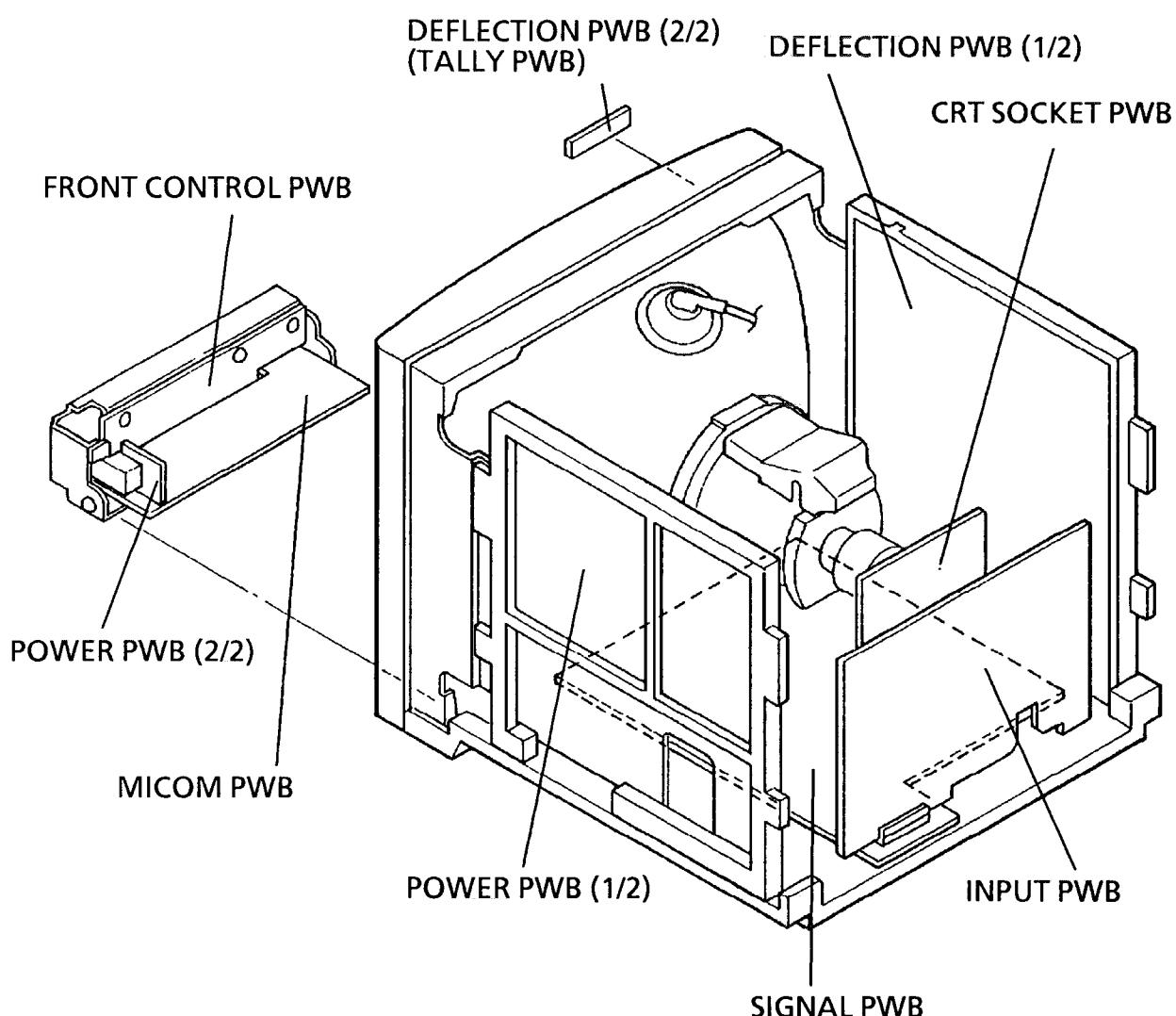
Problems	Points to be checked	Measures
Inoperable adjustment controls or buttons.	Is MEMORY MODE switched on? Is CONTROL LOCK activated?	Switch off. Deactivate it.
Abnormal picture adjustments with all controls at centre.	Are PICTURE ADJUST menu settings changed via remote control?	Reset to standard settings.
Inoperable picture synchronisation.	Is EXT SYNC switched on?	Switch to off.
Inoperable remote-controlled picture adjustments.	Are the front controls set approximately to the maximum or minimum?	If so, the settings may not extend any more via remote control (although setting levels indicated on screen may show a slight change).
Assigned remote control ID number operates another monitor.	Is ID number 00 programmed for other monitors?	Programme an ID number other than 00.
Inoperable remote control.	Do other monitors indicate a red ID number?	Assign the ID number again.
No sound via audio signal input.	Is the ID number programmed for other monitors assigned?	Assign the monitor's programmed ID number.
No INITIALIZE MENU display.	Does the audio input terminal match the video input terminal?	Each audio input terminal is linked with a video input terminal.
Inoperable CNTL-2 external control via TALLY/REMOTE terminal.	Are you pressing the ▼ and MENU buttons until it appears?	Keep pressing these buttons until it appears.



SPECIFICATIONS

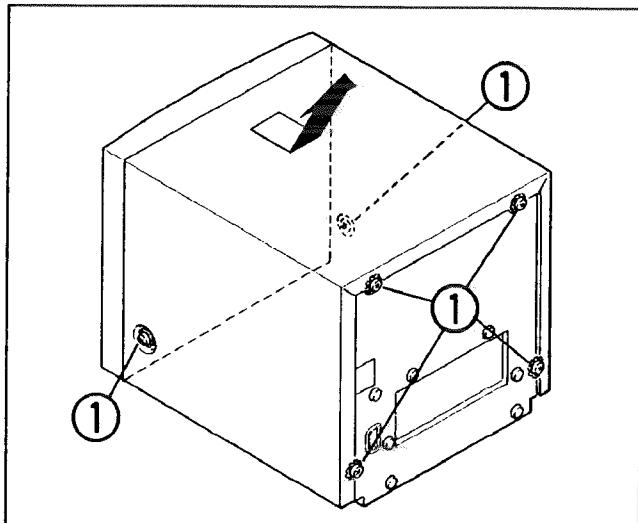
Type	: Colour video monitor	: Analogue RGB
Colour systems	: NTSC 3.58 MHz, NTSC 4.43MHz, PAL	: RGB/COMPONENT (SDI)
Picture tube	: [BM-H2000PN]	(1 line: common with Y, R-Y, B-Y component).
	50 cm diagonally measured.	BNC x 6 (with 3 bridge-connected outputs)
	90° deflection, in-line gun, medium-high-definition cathode-ray tube,	Termination switches provided
	trio-dot type (dot pitch of 0.4 mm),	R.B: 0.7 V p-p, 75Ω
	EBU standard phosphor	G: 0.7 V p-p, 75Ω
	: [BM-H1400PN]	G on sync: 1.0 V p-p, 75Ω, negative sync
	36 cm diagonally measured.	: Y, R-Y, B-Y component
	90° deflection, in-line gun, high-definition tinted cathode-ray tube,	: RGB/COMPONENT (SDI)
	trio-dot type (dot pitch of 0.28 mm),	(1 line: common with analogue RGB)
	EBU standard phosphor	Y: 1.0 V p-p, 75Ω, negative sync
	: [BM-1400PN-A]	R-Y, B-Y: 0.7 V p-p, 75Ω
	36 cm diagonally measured.	: SYNC (1 line).
	90° deflection, in-line gun, medium-high-definition tinted cathode-ray tube, trio-dot type (dot pitch of 0.39 mm), P-22 phosphor	BNC x 2 (with 1 bridge-connected output)
	: 399 x 298 mm [BM-H2000PN]	0.4 – 4.0 V p-p composite sync, 75Ω, negative sync
	280 x 210 mm [BM-H1400PN]	Termination switch provided
Scanning frequency	: H: 15.734 kHz (NTSC 3.58/4.43 MHz) V: 59.94 Hz (NTSC 3.58/4.43MHz) 50 Hz (PAL)	: AUDIO A, B, RGB/COMPONENT (SDI) (3 lines), RCA x 2 each (with 1 bridge-connected output)
Horizontal resolution	: 750 TV lines or more [BM-H2000PN] 620 TV lines or more [BM-H1400PN] /BM-H1400PN-A]	500 mV rms, high impedance
Colour temperature	: 6500K, x = 0.313, y = 0.329 9300K, x = 0.283, y = 0.297 (selectable)	: TALLY/REMOTE, DIN (8-pin) x 1
Video inputs	: Composite video INPUT A, B (2 lines), BNC x 2 each (with 1 bridge-connected output)	: Audio power output : 1.6 W [BM-H2000PN] 0.8 W [BM-H1400PN/BM-H1400PN-A]
	Termination switch provided	: Built-in speaker : 9 x 5 cm oval x 1
	1.0 V p-p, 75Ω, negative sync	: Operation temperature : 0 – 40°C (20 – 80% RH)
	: Y/C	: Power requirements : 230 V AC, 50/60 Hz
	Y/C (1 line), Mini-DIN (4-pin) x 2 (with 1 bridge-connected output)	: Dimensions (WxHxD) : 449 x 431 x 511 mm [BM-H2000PN] 346 x 332 x 410 mm [BM-H1400PN]
	Termination switch provided	: Power consumption : 0.6 A [BM-H2000PN/BM-H1400PN] 0.7 A [BM-1400PN-A]
	Y: 1.0 V p-p, 75Ω, negative sync	: Weight : 30 kg [BM-H2000PN] 16.2 kg [BM-H1400PN/BM-1400PN-A]
	C (NTSC 3.58/4.43 MHz): 0.286 Vp-p, 75Ω	: Provided accessory : Power cord x 1
	C (PAL): 0.3 V p-p, 75Ω	: Optional accessories : Wireless remote control unit
		* RM-C550W
		* Pack-mount adapter
		* RK-20E [BM-H2000PN]
		* RK-1400E [BM-H1400PN] /BM-1400PN-A]
		Digital interface unit
		* IF-C2000SDE

MAIN PARTS LOCATION



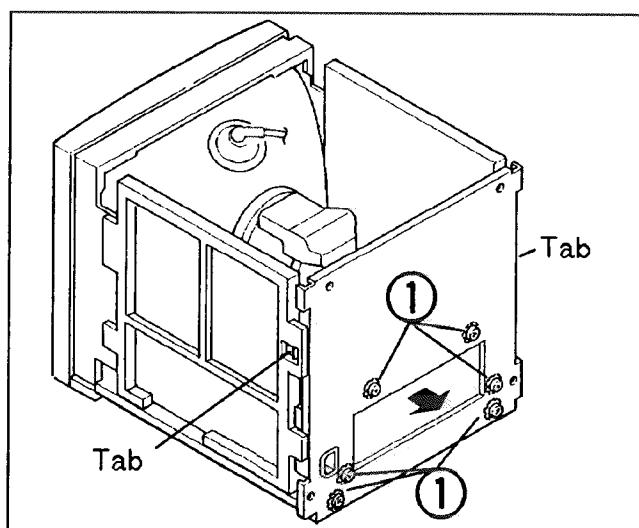
SPECIFIC SERVICE INSTRUCTIONS

DISASSEMBLY PROCEDURE



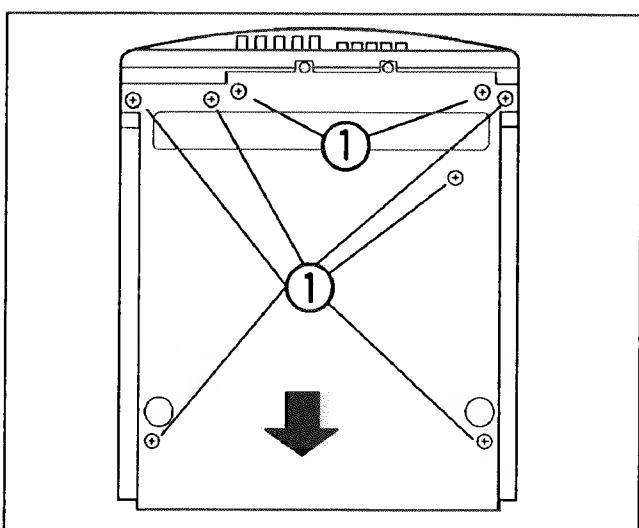
■ TOP COVER

1. Take out 6 screws ①
2. Slightly spread the bottom of the cover, shift it rearward, then raise the cover to remove it.



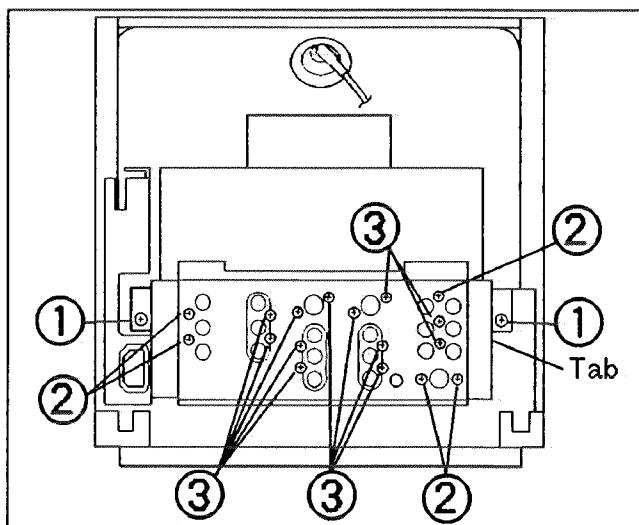
■ REAR PANEL

1. Remove the top cover.
2. Take out 6 screws ①.
3. Press the tabs at both edges and remove the rear panel in the direction indicated by the arrow.



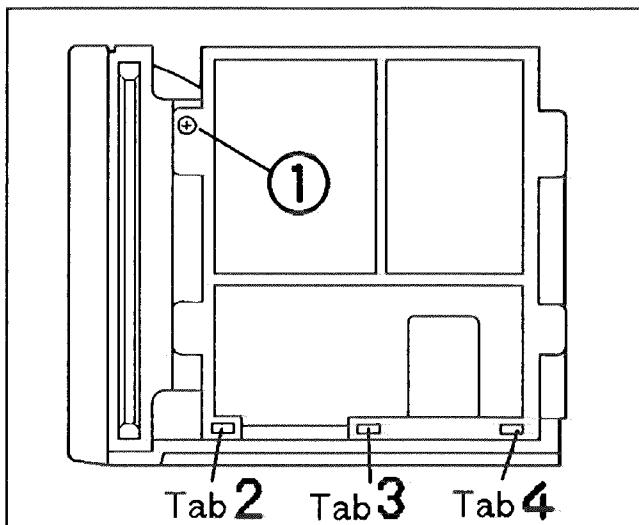
■ BOTTOM COVER

1. Remove the top cover and rear panel.
2. Take out 8 screws ①.
3. Slightly raise the bottom cover and remove it in the direction indicated by the arrow.



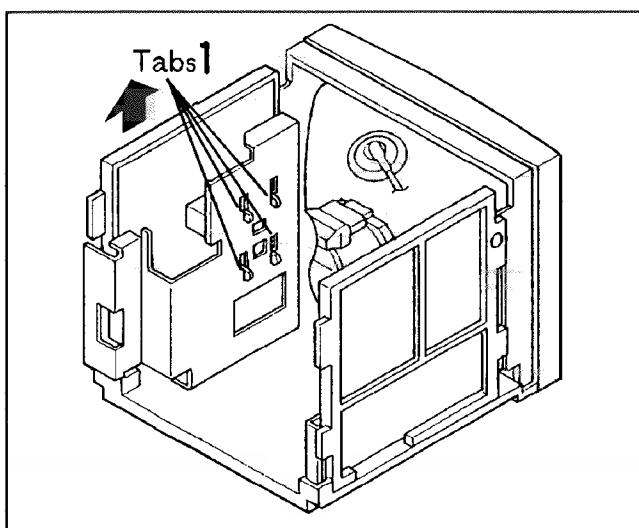
■ INPUT PWB, TERMINAL SHEET AND TERMINAL BRACKET

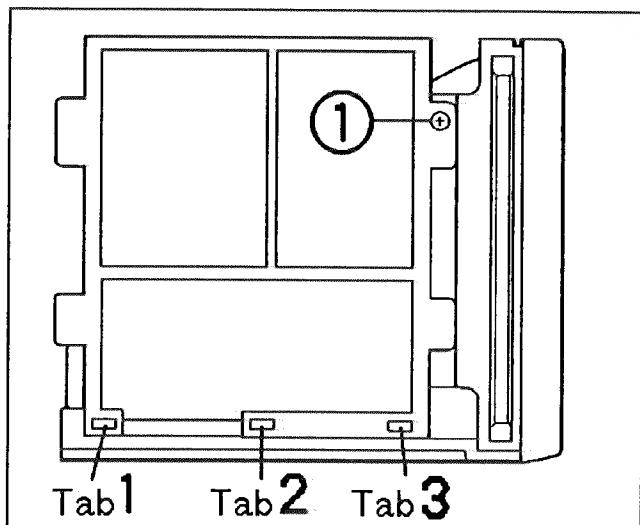
1. Remove the top cover and rear panel.
2. Take out 2 screws ①.
3. While pressing the bottom SIGNAL PWB, pull the INPUT PWB upward to remove it. Carefully engage it with the tab to allow powered checks.
4. Take out 5 screws ② and remove the terminal sheet.
5. Take out 12 screws ③ and remove the terminal bracket.



■ POWER PWB

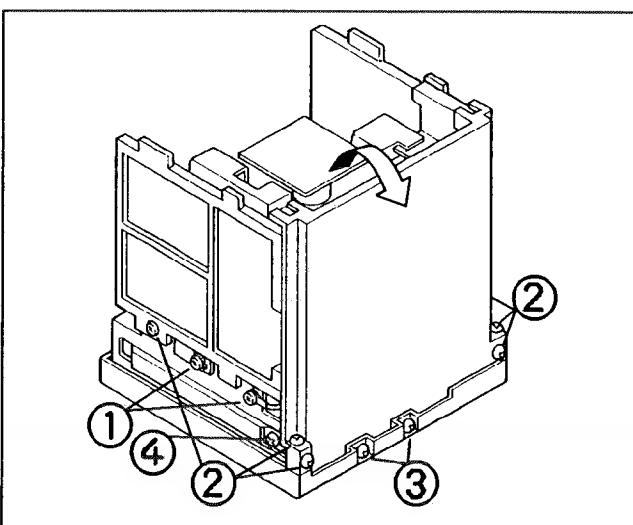
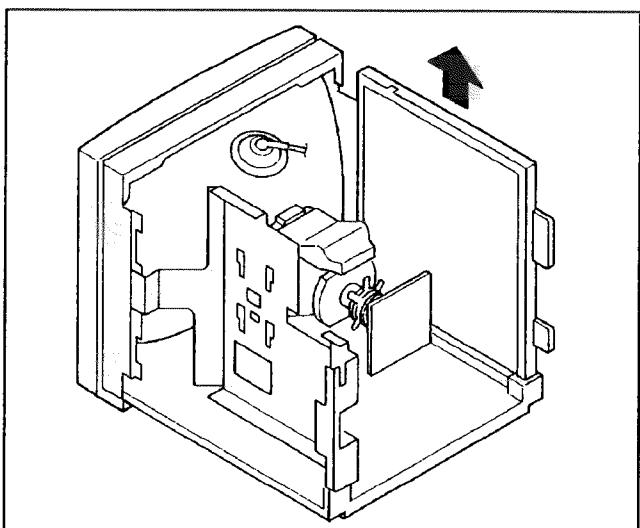
1. Remove the top cover and rear panel.
2. Take out 1 screw ①.
3. While sliding 4 tabs 1, raise the PWB.
4. Insert a screwdriver or similar tool and disengage tabs 2, 3 and 4, then remove the POWER SUPPLY PWB.





■ DEFLECTION PWB

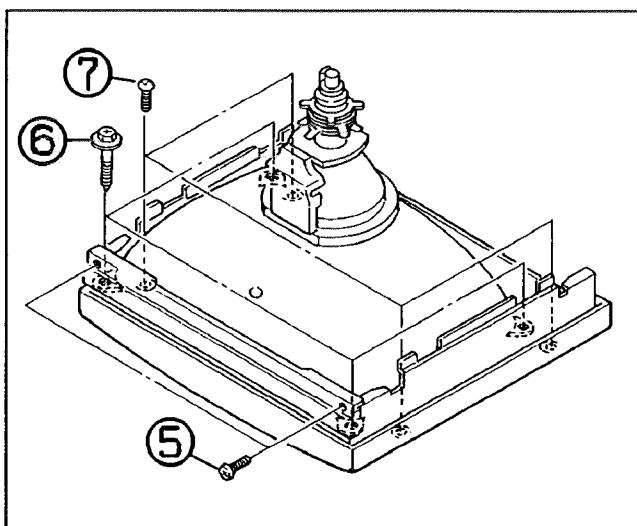
1. Remove the top cover and rear panel.
2. Take out 1 screw ①.
3. While raising the DEFLECTION PWB, insert a screwdriver or similar tool and disengage tabs 1, 2 and 3, then remove the DEFLECTION PWB.



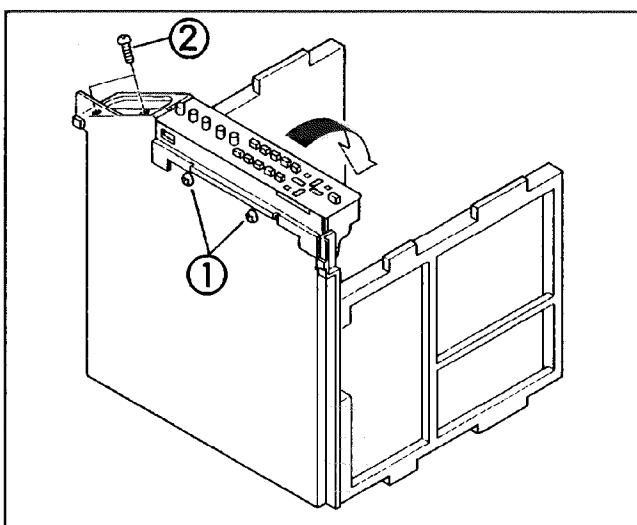
■ CRT

1. Remove the top cover and rear panel.
2. Take out 2 screws ①, 6 screws ②, 2 screws ③ and 1 screw ④.
3. Remove the CRT SOCKET PWB , anode cap and DY wire , Tally wire Degauss coil wire. Tilt the chassis in the direction indicated by the arrow and remove it.

Note: Use a cushion to avoid scratching the CRT face.

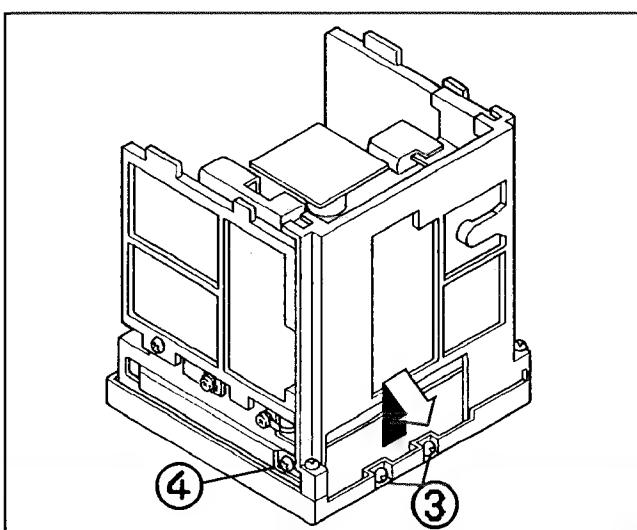


4. Take out 2 screws ⑤ and remove the top beam.
5. Take out 4 screws ⑦ and remove the left and right CRT side shields.
6. Take out 4 screws ⑥ and remove the CRT.



■ FRONT CONTROL BRACKET AND SPEAKER

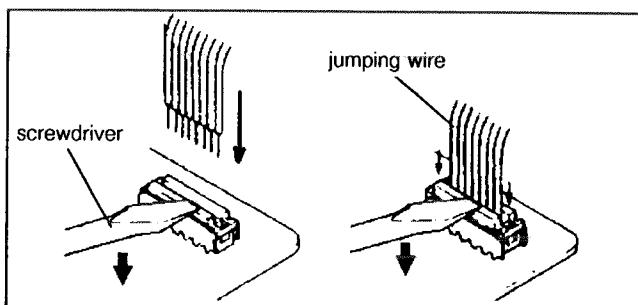
1. Remove the top cover and rear panel, and disengage the chassis.
2. Take out 2 screws ① and remove the front control panel bracket (including the MICOM PWB).
3. Take out 2 screws ② and remove the speaker.



● **The front control bracket can be removed without removing the chassis.**

1. Remove the bottom cover and take out 2 screws ③ and 1 screw ④.
2. Disengage the power switch connector.
3. While raising the front control bracket, remove it outward. Use care not to snag the volume knob with the front panel.

Note: Work is easier with the set upside down.

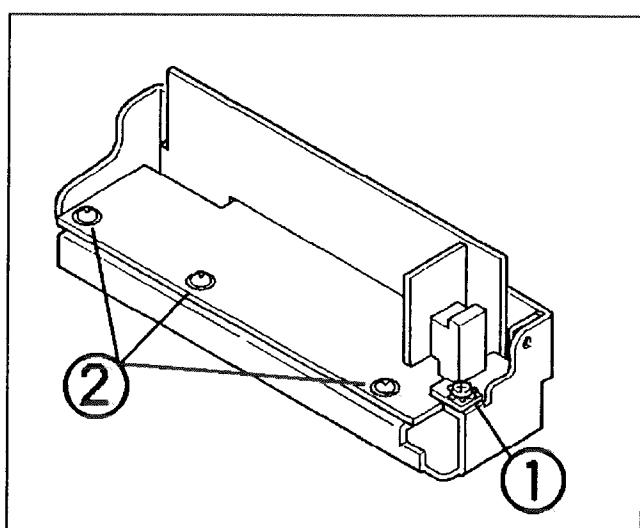
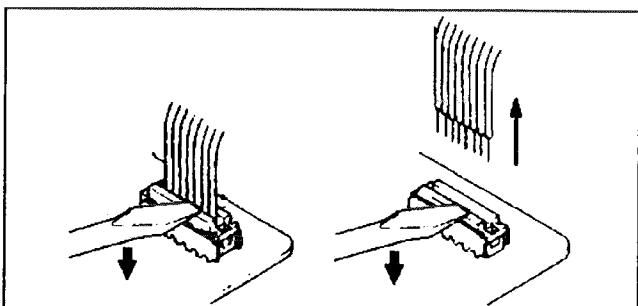


● MICOM - SIGNAL PWB jump wires Connection

1. Check that the ends of the jump wires are straight and aligned.
2. Use a screwdriver or similar tool to press the portion of the connector labelled Push.(In practice, the wires can be inserted without pressing.)
3. Align the ends of the jump wire with the respective holes of the connector and insert vertically.

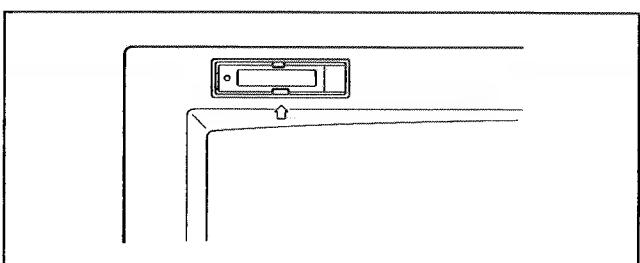
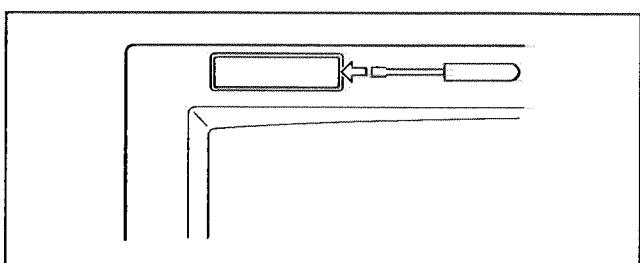
Disconnection

1. Use a screwdriver or similar tool to press the portion of the connector labelled Push.
2. While holding the connector depressed, pull the wires upward to disconnect them.



■ POWER SWITCH, FRONT CONTROL PWB AND MICOM PWB

1. Remove the front control bracket (including MICOM PWB).
2. Take out 1 screw ① and remove the power switch.
3. Take out 3 screws ② and remove the FRONT CONTROL PWB and MICOM PWB.
4. Disengage the PWB connectors.



■ DEFLECTION PWB (TALLY PWB)

1. While using care not to scratch the front panel, insert a flat blade screwdriver into the edge of the tally cover and remove the cover.
2. Since the TALLY PWB appears, press the top and bottom tabs downward with the screwdriver.
3. Pull the PWB downward to tilt and remove the PWB.

REPLACEMENT OF CHIP COMPONENT

■CAUTIONS

1. Avoid heating for more than 3 seconds.
2. Do not rub the electrodes and the resist parts of the pattern.
3. When removing a chip part, melt the solder adequately.
4. Do not reuse a chip part after removing it.

■SOLDERING IRON

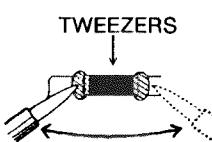
1. Use a high insulation soldering iron with a thin pointed end of it.
2. A 30w soldering iron is recommended for easily removing parts.

■REPLACEMENT STEPS

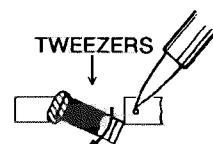
1. How to remove Chip parts

•Resistors, capacitors, etc

- (1) As shown in the figure, push the part with tweezers and alternately melt the solder at each end.

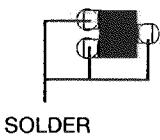


- (2) Shift with tweezers and remove the chip part.

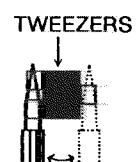


•Transistors, diodes, variable resistors, etc

- (1) Apply extra solder to each lead.



- (2) As shown in the figure, push the part with tweezers and alternately melt the solder at each lead. Shift and remove the chip part.

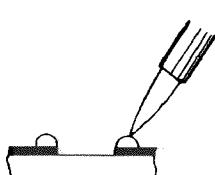


Note: After removing the part, remove remaining solder from the pattern.

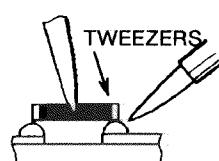
2. How to install Chip parts

•Resistors, capacitors, etc

- (1) Apply solder to the pattern as indicated in the figure.



- (2) Grasp the chip part with tweezers and place it on the solder. Then heat and melt the solder at both ends of the chip part.



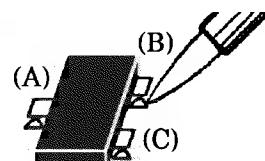
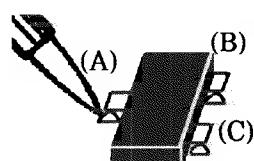
•Transistors, diodes, variable resistors, etc

- (1) Apply solder to the pattern as indicated in the figure.

- (2) Grasp the chip part with tweezers and place it on the solder.

- (3) First solder lead A as indicated in the figure.

- (4) Then solder leads B and C.



SERVICE MENU ENTRY

- If the separately sold remote controller (RM-C550W) is available, this can be used for adjustments. Normally, perform adjustments using the set front control panel.
1. While holding ENTER depressed, press DEGAUSS.
 2. The letter S appears at the upper left of the screen.
 3. While holding ENTER depressed, press MENU.
 4. The screen display changes to <SERVICE MENU>
PLEASE, DON'T TOUCH!
 5. Press the left [\leftarrow] or right arrow [\rightarrow] to display the SERVICE MENU.
- If Step 4 state continues for more than 5 seconds without a further operation, the display extinguishes and the mode is released.

ITEM SELECTION

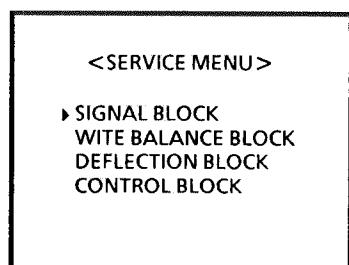
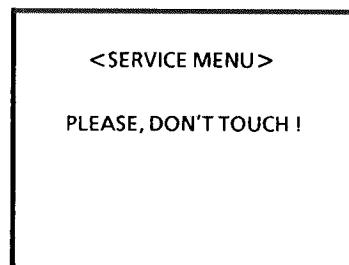
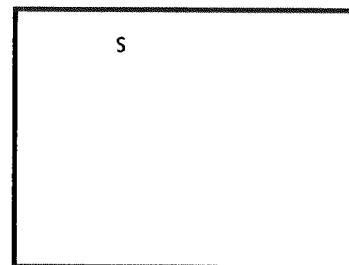
- While the SERVICE MAIN MENU is displayed:
1. Press the up [\uparrow] or down arrow [\downarrow] to select the item.
 2. After selecting the item, press ENTER.
 3. The adjustment mode menu is displayed.

SETTING VALUE CHANGE

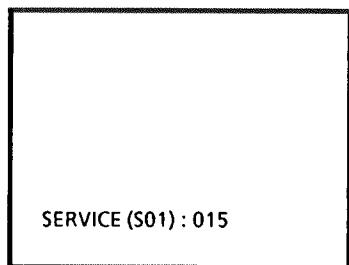
- While the adjustment mode menu is displayed:
1. Press the right arrow [\rightarrow] to change the setting value in the + direction.
 2. Press the left arrow [\leftarrow] to change the setting value in the - direction.
 3. Press the up [\uparrow] or down arrow [\downarrow] to change the adjustment item number.

SERVICE MENU EXIT

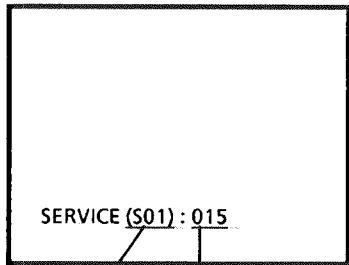
1. When settings are completed, press MENU.
2. The SERVICE MAIN MENU returns.
3. Again press MENU.
4. The screen display extinguishes and the service mode is exited.



SERVICE MAIN MENU



ADJUSTMENT MODE MENU



Adjustment item/number
Setting value

■ SIGNAL SYSTEM SETTINGS

No.	Input	Signal	Item	Data type	Variable range	Initial value
S01			Bright	Standard value	0~63	15
S02	Video	NTSC	Chroma	Standard value	0~63	32
S03	Video	NTSC	Phase	Standard value	0~63	32
S04	Video	NTSC	Contrast	Standard value	0~63	32
S05	Video	PAL	Chroma	Standard value	0~63	32
S06	Video	PAL	Contrast	Standard value	0~63	32
S07	Video Y/C	N443	Phase	Standard value	0~63	32
S08	Y/C	NTSC	Chroma	Standard value	0~63	32
S09	Y/C	NTSC	Phase	Standard value	0~63	32
S10	Y/C	NTSC PAL N443	Contrast	Standard value	0~63	32
S11	Y/C	PAL	Chroma	Standard value	0~63	32
S12	Color difference	N10/ SMPTE	Chroma	Standard value	0~63	32
S13	Color difference		Contrast	Standard value	0~63	32
S14	RGB		Contrast	Standard value	0~63	32
S15	Video	N443	Chroma	Correction value	0~255	3
S16	Y/C	N443	Chroma	Correction value	0~255	3
S17	Color difference	BETA	Chroma	Correction value	0~255	247
S18			Bright →pulse cross	Correction value	0~255	20
S19			Contrast →pulse cross	Correction value	0~255	236
S20			Bright →underscan	Correction value	0~255	0
S21			Contrast →underscan	Correction value	0~255	252
S22			Bright →16 : 9	Correction value	0~255	0
S23			Contrast →16 : 9	Correction value	0~255	250
S24	Video	SECAM	Chroma	Standard value	0~63	32
S25	Video	SECAM	Contrast	Standard value	0~63	32
S26	Y/C	SECAM	Chroma	Standard value	0~63	32

No.	Input	Signal	Item	Data type	Variable range	Initial value
S27	Y/C	SECAM	Contrast	Standard value	0~63	32
S28			Peak Drive Limit	Fixed value	0~255	45
S29			Control Reg - 1	Fixed value	0~255	193
S30			Control Reg - 2	Fixed value	0~255	0
S31	Video	NTSC,B/W 60	Y Delay	Fixed value	0~255	65
S32	Y/C	NTSC,B/W 60	Y Delay	Fixed value	0~255	73
S33	Video	PAL,B/W 50	Y Delay	Fixed value	0~255	82
S34	Y/C	PAL,B/W 50	Y Delay	Fixed value	0~255	82
S35	Video	N443	Y Delay	Fixed value	0~255	82
S36	Y/C	N443	Y Delay	Fixed value	0~255	82
S37	Video	SECAM	Y Delay	Fixed value	0~255	82
S38	Y/C	SECAM	Y Delay	Fixed value	0~255	82
S39	Color difference		Y Delay	Fixed value	0~255	64

■ WHITE BALANCE SETTINGS

No.	Color temperature	Scan	Item	Data type	Variable range	Initial value
W01	9300	Normal	R - Cutoff	Standard value	0~63	37
W02	9300	Normal	G - Cutoff	Standard value	0~63	25
W03	9300	Normal	B - Cutoff	Standard value	0~63	23
W04	9300	Normal	R - Drive	Standard value	0~63	34
W05	9300	Normal	G - Drive	Standard value	0~63	32
W06	9300	Normal	B - Drive	Standard value	0~63	30
W07	6500	Normal	R - Cutoff	Standard value	0~63	48
W08	6500	Normal	G - Cutoff	Standard value	0~63	25
W09	6500	Normal	B - Cutoff	Standard value	0~63	12
W10	6500	Normal	R - Drive	Standard value	0~63	37
W11	6500	Normal	G - Drive	Standard value	0~63	32
W12	6500	Normal	B - Drive	Standard value	0~63	24

No.	Color temperature	Scan	Item	Data type	Variable range	Initial value
W13	3200	Normal	R - Cutoff	Standard value	0~63	Not used(32)
W14	3200	Normal	G - Cutoff	Standard value	0~63	Not used(32)
W15	3200	Normal	B - Cutoff	Standard value	0~63	Not used(32)
W16	3200	Normal	R - Drive	Standard value	0~63	Not used(32)
W17	3200	Normal	G - Drive	Standard value	0~63	Not used(32)
W18	3200	Normal	B - Drive	Standard value	0~63	Not used(32)
W19		Under	R - Cutoff	Correction value	0~255	0
W20		Under	G - Cutoff	Correction value	0~255	0
W21		Under	B - Cutoff	Correction value	0~255	0
W22		Under	R - Drive	Correction value	0~255	0
W23		Under	G - Drive	Correction value	0~255	0
W24		Under	B - Drive	Correction value	0~255	0
W25		16 : 9	R - Cutoff	Correction value	0~255	0
W26		16 : 9	G - Cutoff	Correction value	0~255	0
W27		16 : 9	B - Cutoff	Correction value	0~255	0
W28		16 : 9	R - Drive	Correction value	0~255	0
W29		16 : 9	G - Drive	Correction value	0~255	0
W30		16 : 9	B - Drive	Correction value	0~255	0

■ DEFLECTION SYSTEM SETTINGS

No.	Scan	Input	V. frequency	Item	Variable range	Initial value
D01	Normal	Video	60Hz	V-Size →Standard value	0~63	38
D02	Normal	Video	60Hz	V-Shift →Standard value	0~63	32
D03	Normal	Video	60Hz	V-Linearity →Standard value	0~15	7
D04	Normal	Video	60Hz	S-Correction →Standard value	0~15	15
D05	Normal	Video	60Hz	H-Size →Standard value	0~63	26
D06	Normal	Video	60Hz	H-Shift →Standard value	0~63	32
D07	Normal	Video	60Hz	Pin-AMP →Standard value	0~63	41
D08	Normal	Video	50Hz/60Hz	HV-COMP-V →Standard value	0~7	7
D09	Normal	Video	50Hz/60Hz	HV-COMP-H →Standard value	0~7	0
D10	Normal	Video	50Hz	V-Size →Standard value	0~255	40
D11	Normal	Video	50Hz	V-Shift →Standard value	0~255	29
D12	Normal	Video	50Hz	V-Linearity →Standard value	0~255	8
D13	Normal	Video	50Hz	S-Correction →Standard value	0~255	15
D14	Normal	Video	50Hz	H-Size →Standard value	0~255	29
D15	Normal	Video	50Hz	H-Shift →Standard value	0~255	32
D16	Normal	Video	50Hz	Pin-AMP →Standard value	0~255	40
D17	Under	Video	50Hz/60Hz	V-Size →Correction value	0~255	230
D18	Under	Video	50Hz/60Hz	V-Shift →Correction value	0~255	0
D19	Under	Video	50Hz/60Hz	V-Linearity →Correction value	0~255	0
D20	Under	Video	50Hz/60Hz	S-Correction →Correction value	0~255	0
D21	Under	Video	50Hz/60Hz	H-Size →Correction value	0~255	0
D22	Under	Video	50Hz/60Hz	H-Shift →Correction value	0~255	0
D23	Under	Video	50Hz/60Hz	Pin-AMP →Correction value	0~255	2
D24	Under	Video	50Hz/60Hz	HV-COMP-V →Correction value	0~255	0
D25	Under	Video	50Hz/60Hz	HV-COMP-H →Correction value	0~255	0
D26	16 : 9	Video	50Hz/60Hz	V-Size →Correction value	0~255	0
D27	16 : 9	Video	50Hz/60Hz	V-Shift →Correction value	0~255	0
D28	16 : 9	Video	50Hz/60Hz	V-Linearity →Correction value	0~255	0
D29	16 : 9	Video	50Hz/60Hz	S-Correction →Correction value	0~255	0
D30	16 : 9	Video	50Hz/60Hz	H-Size →Correction value	0~255	0

No.	Scan	Input	V. frequency	Item	Variable range	Initial value
D31	16 : 9	Video	50Hz/60Hz	H-Shift →Correction value	0~255	0
D32	16 : 9	Video	50Hz/60Hz	Pin-AMP →Correction value	0~255	0
D33		RGB	60Hz	V-Shift →Correction value	0~255	0
D34		RGB	60Hz	H-Shift →Correction value	0~255	0
D35		RGB	50Hz	V-Shift →Correction value	0~255	0
D36		RGB	50Hz	H-Shift →Correction value	0~255	0
D37	Pulse Cross		50Hz/60Hz	V-Shift →Correction value	0~255	0
D38	Pulse Cross		50Hz/60Hz	H-Shift →Correction value	0~255	0
D39	External SYNC		50Hz/60Hz	V-Shift →Correction value	0~255	0
D40	External SYNC		50Hz/60Hz	H-Shift →Correction value	0~255	0
D41	TILT		50Hz/60Hz	TILT →Fixed value	0~255	16
D42	U/L Corner Pin		50Hz/60Hz	U/L CORNER PIN →Fixed value	0~255	255
D43	V-BOW/V-ANGLE		50Hz/60Hz	V-BOW/V-ANGLE →Fixed value	0~255	136

■ Control system setting

No.	Item	Variable range	Initial value	Remarks
C01	MENU select. Default	0~255	1	MENU (COLOR TEMPERATURE, SETUP LEVEL) 1. EUROPE 2. JAPAN 3. US
C02	Menu display time	0~255	0	Menu display time 0: extinguish after 5 minutes, 1: continuous
C03	OSDC Color	0~255	7	On-screen color setting, power off/on needed after changing (see table next page)
C04	OSDC H.Position	0~255	5	On-screen H. position 0 - 15
C05	OSDC V.Position (60Hz)	0~255	1	On-screen V. position (60 Hz) 0 - 15
C06	OSDC V.Position (50Hz)	0~255	2	On-screen V. position (50 Hz) 0 - 15
C07	Bright Data to MAX	0~255	20	Effective brightness range from center detent to maximum
C08	Bright Data to MIN	0~255	20	Effective brightness range from center detent to minimum

No.	Item	Variable range	Initial value	Remarks
C09	Chroma Data to MAX	0~255	30	Effective chroma range from center detent to maximum
C10	Chroma Data to MIN	0~255	50	Effective chroma range from center detent to minimum
C11	Contrast Data to MAX	0~255	20	Effective contrast range from center detent to maximum
C12	Contrast Data to MIN	0~255	20	Effective contrast range from center detent to minimum
C13	Phase Data to MAX	0~255	30	Effective phase range from center detent to maximum
C14	Phase Data to MIN	0~255	30	Effective phase range from center detent to minimum
C15	Signal	0~255	10	Signal Status display check time
C16	System detect	0~255	0	0: automatic, 1: 3.58 MHz, 2: 4.43 MHz

No.	On-screen color setting data	No.	On-screen color setting data
129	Blue	0	Black (darkens during blue check)
130	Green	1	Black (brightens during blue check)
131	Aqua	2	Green (darkens during blue check)
132	Red	3	Green (brightens during blue check)
133	Magenta	4	Red (darkens during blue check)
134	Yellow	5	Red (brightens during blue check)
135	White	6	Orange (darkens during blue check)
136	Black	7	Orange (brightens during blue check)

SET-UP MENU ENTRY

- If the separately sold remote controller (RM-C550W) is available, this can be used for adjustments. Normally, perform adjustments using the set front control panel.

 - While holding ENTER depressed, press MENU.
 - The SET-UP MENU is displayed on the screen.

ITEM SELECTION

■ SIZE/CENTERING, WHITE BALANCE ADJUST, REMOTE SELECT

- SIZE / CENTERING items are displayed only when RGB input is selected.

 - Press the up [\uparrow] or down arrow [\downarrow] to select SIZE / CENTERING items.
 - After selecting the item, press ENTER.
 - The adjustment mode menu is displayed.
 - Again press ENTER to display the adjustment mode sub-menu for each adjustment item (select adjustment item with up [\uparrow] or down arrow [\downarrow]).
 - Press MENU to display the original adjustment mode menu.
 - Perform in the same manner for White balance adjust and Remote select.

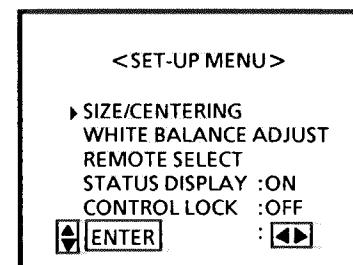
■ STATUS DISPLAY

- Press the up [\uparrow] or down arrow [\downarrow] to select the status display items.
- Press the left [\leftarrow] or right arrow [\rightarrow] to select on/off.

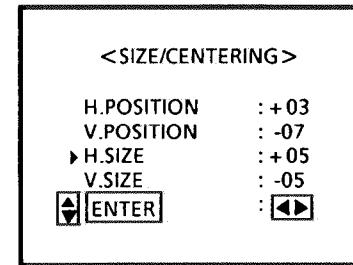
■ CONTROL LOCK

- Except for sound volume, all control operations are inhibited from the front control buttons, Phase, Chroma, Bright and Contrast controls, and the remote controller (sound volume remains operational).

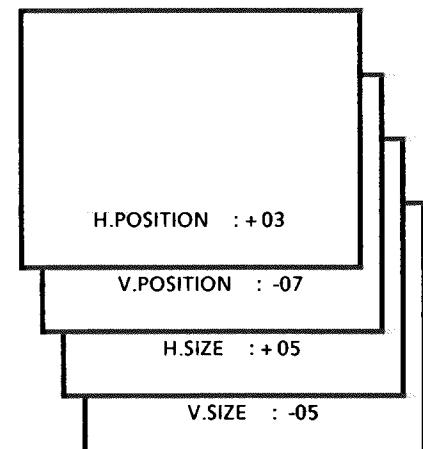
 - Press the up [\uparrow] or down arrow [\downarrow] to select Control Lock.
 - Press the left [\leftarrow] or right arrow [\rightarrow] to select on/off.
 - The status just prior to selecting On is held and after exiting the SET-UP MAIN MENU, control adjustment is inhibited.
 - To release the CONTROL LOCK, press ENTER and MENU to display the set-up main menu, then set CONTROL LOCK to off.



SET-UP MAIN MENU



ADJUSTMENT MODE MENU



ADJUSTMENT MODE SUB-MENU

H.SIZE → V.SIZE → H.POSITION → V.POSITION

↑

SETTING VALUE CHANGE

- Set for displaying the adjustment mode menu or the adjustment mode sub-menu.
1. Press the right arrow [→] to change the adjustment value in the + direction.
 2. Press the left arrow [←] to change the adjustment value in the - direction.
 3. Press the up [↑] or down arrow [↓] to change the adjustment item.
 4. Press MENU to return the SET-UP MAIN MENU. (At the adjustment mode sub-menu, again press MENU.)

SET-UP MENU EXIT

1. When settings are complete, press MENU.
2. The screen display extinguishes and the SET-UP MENU is exited.

SET-UP MENU CHECKS

■ WHITE BALANCE

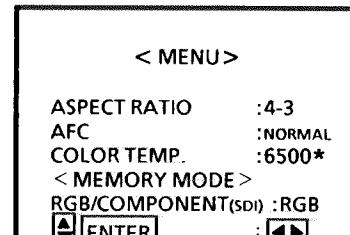
To check if adjustment has changed:

1. Press MENU to display the user main menu.
2. If an asterisk (*) appears at the Color Temp. item, the setting has been changed.

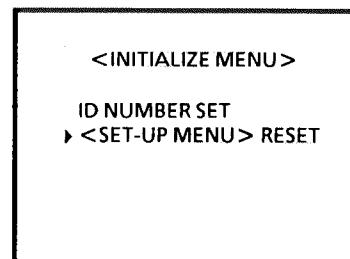
■ SET-UP MENU INITIALIZE

To return changed SIZE/CENTERING and WHITE BALANCE Adjust to original status (initialize);

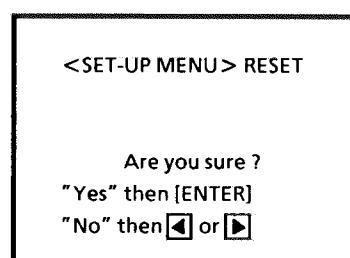
1. Hold the mainframe down arrow [↓] and MENU depressed, and set power on (inoperable from remote controller).
2. The initialize menu is displayed (hold depressed until menu appears).
3. Select SET-UP MENU RESET and press ENTER.
4. The SET-UP RESET MENU is displayed.
5. Press ENTER to return the standard settings. Note that Remote Elect, Status Display and CONTROL LOCK are initialized and ID No. is cleared to 0.



USER MAIN MENU



INITIALIZE MENU



SET-UP RESET MENU

MEMORY IC REPLACEMENT NOTES

This model uses non-volatile memory ICs. When these are replaced, the data must be reset.

Video and deflection system data are stored in MEMORY IC. If this is replaced without entering the data, a normal picture will not be obtained. When replacing, be sure to use an IC containing the (initial value) data.

■ SET-UP MENU RECORD

Press MENU and at the menu display, check if an asterisk (*) appears after Color Temp. If the asterisk appears, the user has set the values according to personal preference. To the extent possible, make a memo of the setting values before replacing the IC.

■ IC REPLACEMENT STEPS

1. To the extent possible, make a memo of the SET-UP MENU and adjustment mode menu contents.
2. Switch off the power and disconnect the power cord from the outlet.
3. Replace the MEMORY IC.
4. Reconnect the power cord to the outlet and switch power on.
5. Refer to the memo and enter the setting values.
6. Perform adjustments according to the adjustment items.

SERVICE ADJUSTMENTS

PRIOR TO STARTING ADJUSTMENT

1. Supply power to the set and measuring instruments and allow to warm up for at least 30 minutes.
2. Confirm the proper AC power voltage is being supplied.
3. Use care not to disturb controls and switches not mentioned in the adjustment items.
4. Refer to adjustment settings and set user operated controls (BRIGHT, CONTRAST, PHASE, CHROMA, etc.) to the indicated positions.

TOOLS AND FIXTURES FOR ADJUSTMENT

- DC voltmeter (digital voltmeter)
 - Oscilloscope
 - Signal generator (PAL/NTSC systems)
 - Color bar and split color bar patterns
 - Crosshatch pattern
 - Cross pattern
 - Red raster pattern
 - Green raster pattern
 - Blue raster pattern
 - Philips pattern (including R-Y and B-Y)
 - TV resolution pattern
 - Remote control unit (RM-C550W)
 - Color analyzer
 - High voltage meter
- | | |
|---------------------------------|--|
| Desirable | |
| Desirable | |
| Adjustments easier if available | |
| Desirable | |
| Desirable | |

ADJUSTMENT SETTINGS

1. Front controls

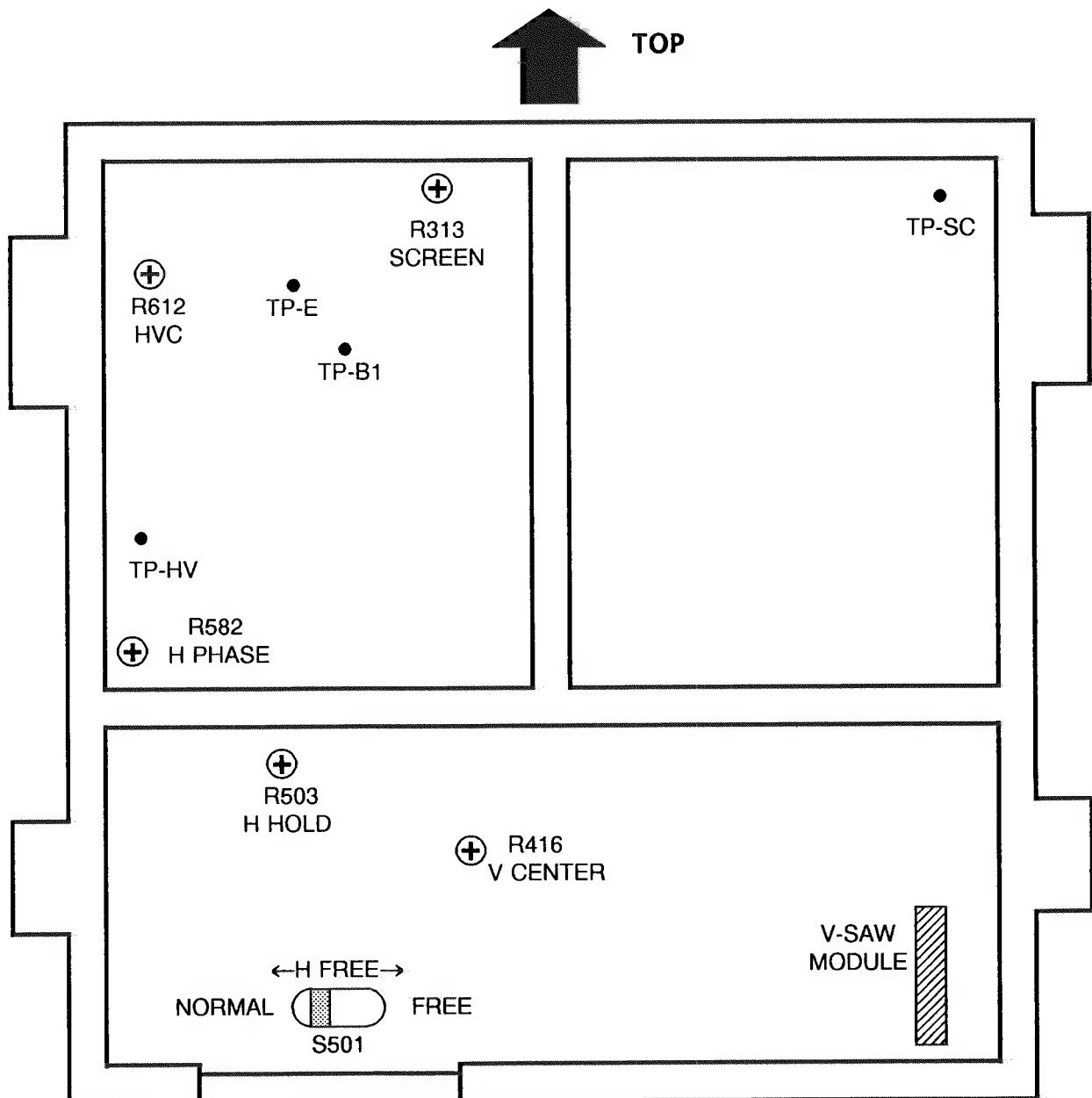
PHASE	Detent
CHROMA	Detent
BRIGHT	Detent
CONTRAST	Detent
VOLUME	MIN
2. Front switches

INPUT SELECT	VIDEO A	
EXT SYNC	INT	Switched not depressed
UNDER SCAN	OVER	"
PULSE CROSS	OFF	"
COLOR OFF	COLOR	"
BLUE CHECK	OFF	"
MEMORY MODE	OFF	"
3. Menu screen

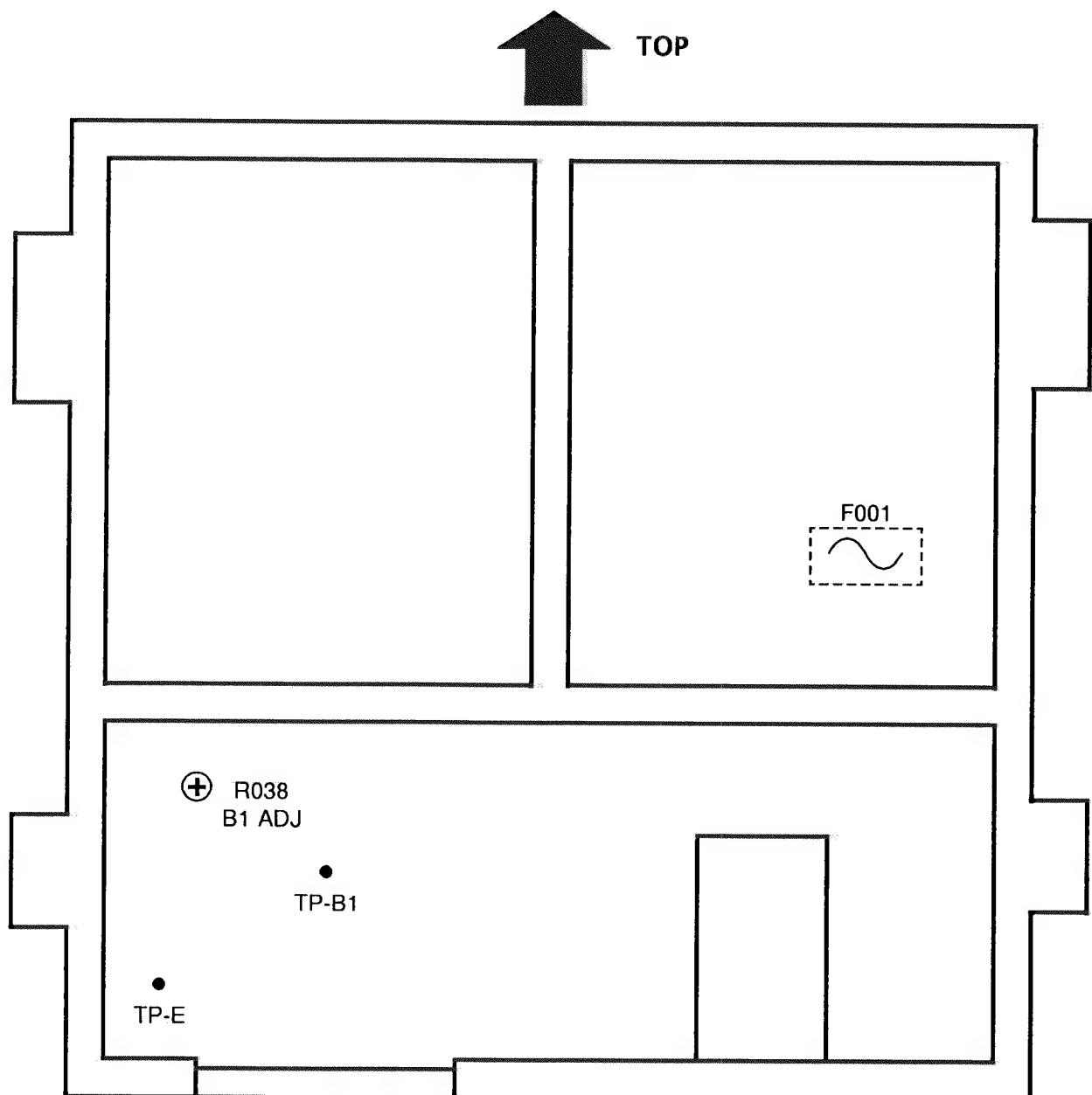
ASPECT RATIO	4 - 3
FILTER SELECT	COMB
PEAKING FREQ.	2.6MHz
PEAKING LEVEL	0dB
AFC	NORMAL
COLOR TEMP.	<u>9300</u>
NTSC SETUP	0
COMPO. LEVEL	SMPTE
RGB/COMPONENT	RGB

ADJUSTMENT LOCATIONS

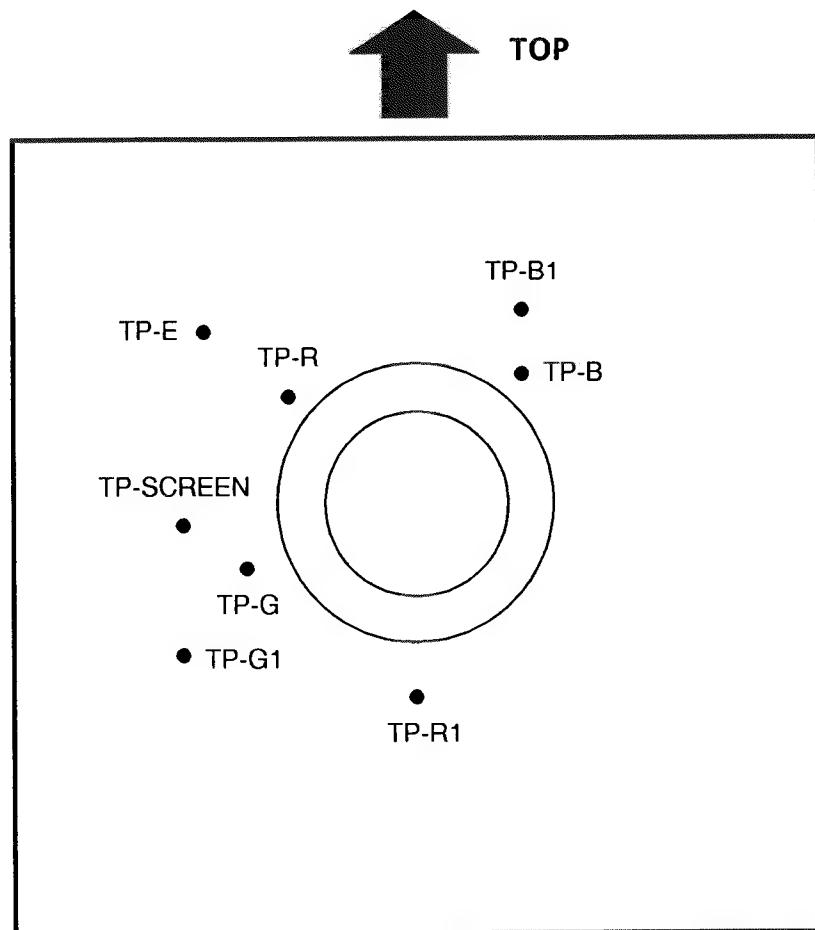
■ DEFLECTION PWB (pattern side)



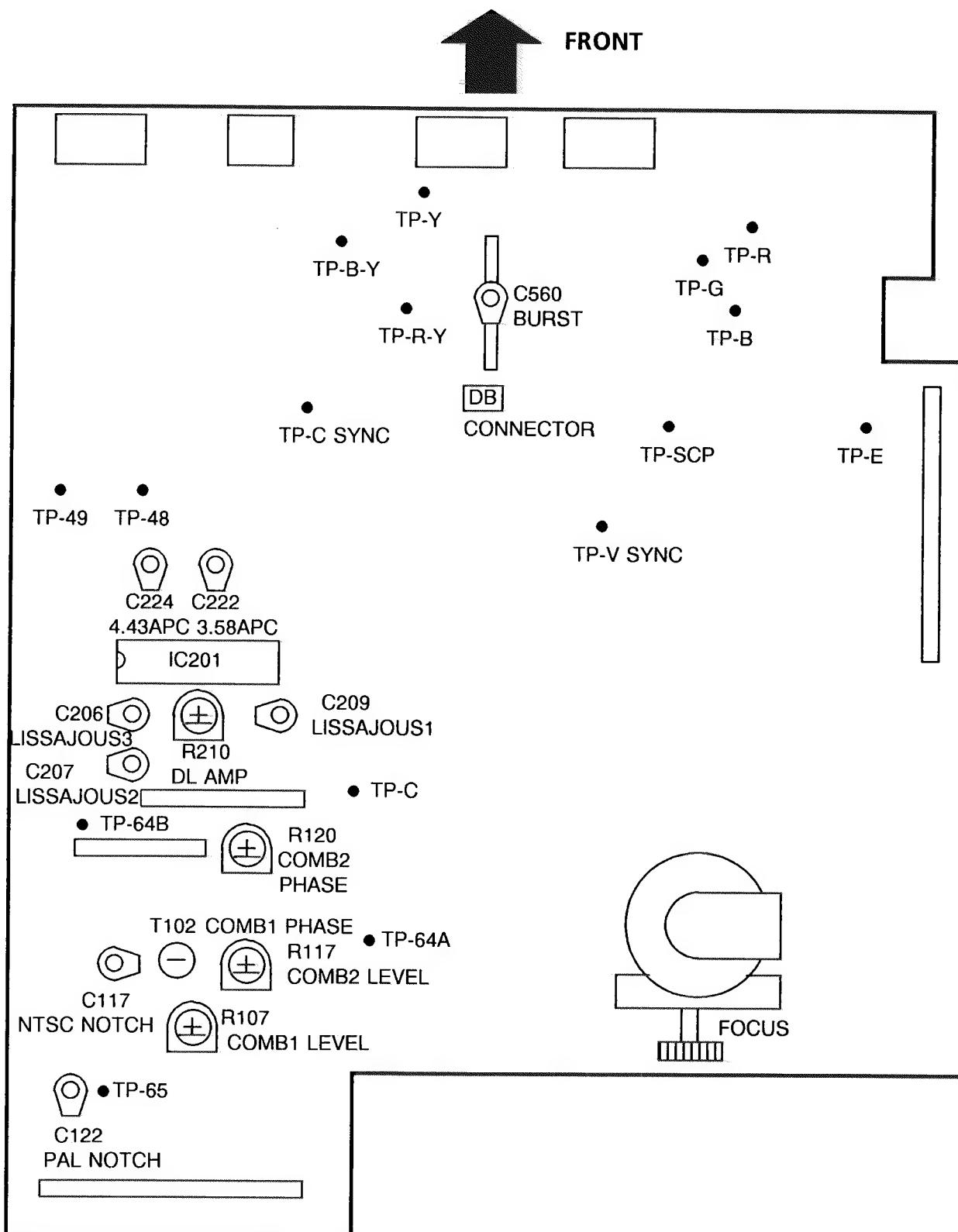
■ POWER PWB (pattern side)



■CRT SOCKET PWB (pattern side)



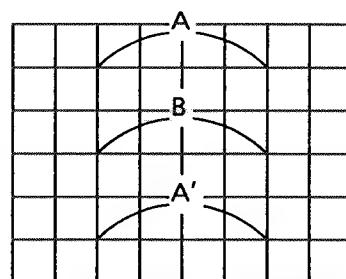
■ SIGNAL PWB (parts side)

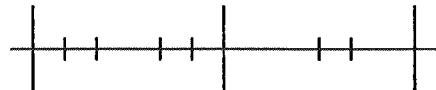
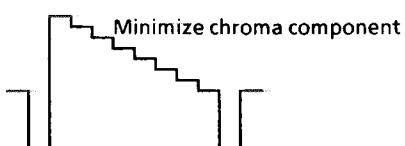
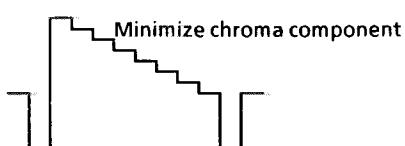


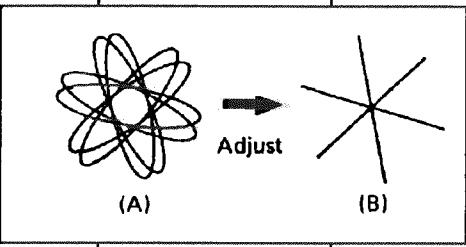
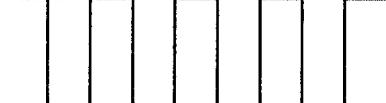
ADJUSTING STEP

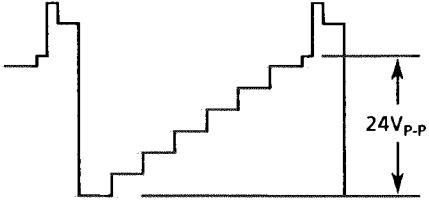
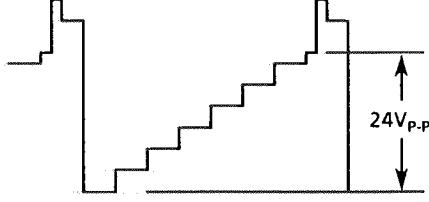
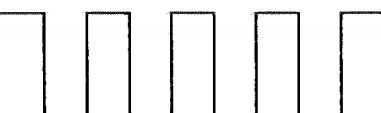
Item	Test equipment	Test points	Adjustment locations	Adjustment procedure
B1 voltage check	Voltmeter Variable transformer	TP-B1 TP-E [POWER PWB]	R038 (B1 adj) [POWER PWB]	<ol style="list-style-type: none"> Set power supply voltage to 198 V. Set CONTRAST and BRIGHT to minimum and produce a black screen. Connect voltmeter between TP-B1 and TP-E. Switch on power. Adjust R038 (B1 adj) to set the B1 voltage to 54.0 ± 0.1 V. Set the power supply voltage to 264 V. Check for B1 voltage of 54.0 ± 0.2 V. Return the CONTRAST and BRIGHT controls to the detent positions.
High voltage check	High voltage meter Signal generator (All-black signal)			<ol style="list-style-type: none"> Set the Ext Sync switch to Ext. Connect a synchronization signal to Ext Sync. When the raster appears, reduce the BRIGHT control. Connect the high voltage meter to the anode and check for 22.5 - 23.5 KV. Return the Ext Sync switch to Int.
V.deflection center	Signal generator (Resolution pattern)		D02(NTSC V SHIFT) [SERVICE MENU] R416(V CENTER) [DEFLECTION PWB]	<ul style="list-style-type: none"> Perform after purity adjustment. Adjust deflection yoke inclination. <ol style="list-style-type: none"> At SERVICE MENU, set D02 to 32. Adjust R416 (V CENTER) to align the picture center with the CRT center.
Screen	Oscilloscope Signal generator (Color bar)	TP-SC	R313 (SCREEN) [DEFLECTION PWB]	<ol style="list-style-type: none"> Connect oscilloscope to TP-SC. Adjust R313 (Screen) to set the screen voltage to 450 ± 10 V.
Focus	Signal generator (Resolution pattern)		FOCUS VR [HVT]	<ol style="list-style-type: none"> Adjust the Focus VR for optimum focus where moire is not apparent. Darken the picture and adjust the focus by turning counter-clockwise from the position where focus is poor. Alternately repeat the above steps to obtain the optimum position. <ul style="list-style-type: none"> Focus can be adjusted easily by displaying the menu.
H frequency	Signal generator (Resolution pattern)		D06(H SHIFT) [SERVICE MENU] S501 (H FREE SW) R503(H HOLD) [DEFLECTION PWB]	<ol style="list-style-type: none"> At the SERVICE MENU, set D06 to 32. Set S501 (H Free SW) to Free. Adjust screen sync with R503 (H Hold). Set S501 (H Free SW) to Normal. Change the signal, then return the previous signal. Confirm absence of sync disturbance.
H center (NTSC)	Signal generator (Resolution pattern)		D06(H SHIFT) [SERVICE MENU] R582(H PHASE) [DEFLECTION PWB]	<ol style="list-style-type: none"> At the SERVICE MENU, set D06 to 32. Adjust R582 (H Phase) to align the picture center with the CRT center.

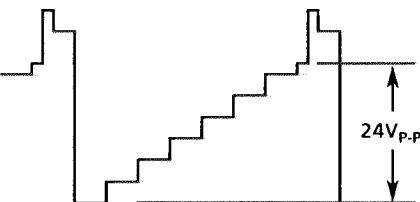
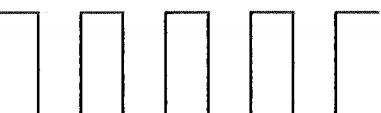
Item	Test equipment	Test points	Adjustment locations	Adjustment procedure
HVC	Voltmeter Signal generator (All-black signal)	TP-HV	R612(HVC) [DEFLECTION PWB]	<ol style="list-style-type: none"> Set Ext Sync to Ext and supply a horizontal sync signal input. When the raster appears, reduce the BRIGHT control. Connect the voltmeter to TP-HV. Adjust R612 (HVC) for 2.0 ± 0.1 V.
H gain (NTSC)	Signal generator (Resolution or crosshatch pattern)		D05(H SIZE) D21(H SIZE) D22(H SHIFT) [SERVICE MENU]	<ol style="list-style-type: none"> At the SERVICE MENU, set D05 to adjust the horizontal size to 95 %. Set the Scan Size to Under. Set D21 to 00. Set D22 to 00. Return the Scan Size to normal.
H center H gain (PAL)	Signal generator (Resolution or crosshatch pattern)		D15(H SHIFT) D14(H SIZE) [SERVICE MENU]	<ol style="list-style-type: none"> Adjust D15 to align the picture center with the CRT center. Adjust D14 to set the horizontal size to 95 %.
V gain, V center, V linearity (NTSC)	Signal generator (Resolution pattern)		D03(V LINEARITY) D01(V SIZE) D17(V SIZE) D19(V LINEARITY) D18(V SHIFT) [SERVICE MENU]	<ol style="list-style-type: none"> Check that the horizontal line of the video signal center is at the CRT center (if shifted, adjust R416). Adjust the picture vertical linearity (scan ratio) with D03. Adjust the screen top and bottom edges to 95 % with D01. Set the Scan Size to Under. Set D17 to 230. Set D19 to 00. Set D18 to 00. Return the Scan Size to normal.
V gain, V center, V linearity (PAL)	Signal generator (Resolution pattern)		D11(V SHIFT) D12(V LINEARITY) D10(V SIZE) [SERVICE MENU]	<ol style="list-style-type: none"> Adjust D11 to align the video signal center with the CRT center. Adjust the picture vertical linearity (scan ratio) with D12. Adjust the screen top and bottom edges to 95 % with D10.
Side pincushion (NTSC/PAL)	Signal generator (Crosshatch NTSC/PAL)		D07(PIN AMP) D23(PIN AMP) D16(PIN AMP) [SERVICE MENU]	<ol style="list-style-type: none"> Adjust side pincushion with D07 so that A = B. Set the Scan Size to Under. Adjust side pincushion with D23 so that A = B. Supply a PAL crosshatch input. Return the Scan Size to normal. Adjust side pincushion with D16 so that A = B.

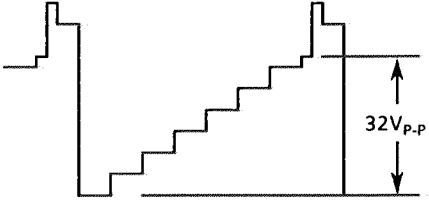
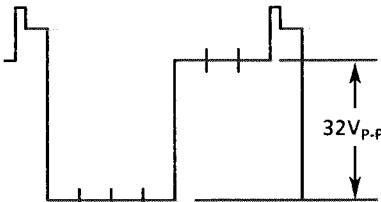


Item	Test equipment	Test points	Adjustment locations	Adjustment procedure
Comb filter (NTSC)	Oscilloscope Signal generator (Color bar)	TP-64A TP-64B	R107 (COMB1 LEVEL) T102 (COMB1 PHASE) R117(COMB2 LEVEL) R120(COMB2 PHASE) [SIGNAL PWB]	<p>1. Set the menu Filter Select to Comb. 2. Connect oscilloscope to TP-64A. 3. Alternately adjust R107 and T102 to minimize the chroma component.</p>  <p>Minimize chroma component</p> <p>4. Connect oscilloscope to TP-64B. 5. Alternately adjust R117 and R120 to minimize the chroma component.</p>  <p>Minimize chroma component</p>
Notch filter	Oscilloscope Signal generator (Color bar NTSC / PAL)	TP-65 TP-C IC201-14pin	C117 (NTSC NOTCH) C122 (PAL NOTCH) C560 (BURST) [SIGNAL PWB]	<p>1. Set the menu Filter Select to Notch. 2. Connect oscilloscope to TP-65. 3. Adjust C117 to minimize the chroma component. 4. Supply a PAL color bar input. 5. Adjust C122 to minimize the chroma component.</p>  <p>Minimize chroma component</p> <p>6. Supply a NTSC color bar input. 7. Connect oscilloscope (ch-1) to TP-C and to IC201-14pin (ch-2), so both waves are able to see at the same time. 8. Adjust the C560 so that the ascending curve of the burst gate pulse intersects the burst signal at the point after the arrow-marked place as shown in figure.</p>
Color sync (NTSC)	Signal generator (Color bar) 10 KΩ resistor Shorting fixture		C222(3.58APC) [SIGNAL PWB]	<p>1. Connect a 10 KΩ resistor between IC201 pin 13 and +B (12 V). 2. Connect a shorting fixture between IC201 pin 14 and ground. 3. Adjust to synchronize the color bar with C222. 4. Remove the resistor and shorting fixture. 5. Change the input signal, then return the color bar. Confirm absence of sync disturbance.</p>

Item	Test equipment	Test points	Adjustment locations	Adjustment procedure
APC (PAL)	Oscilloscope Signal generator (Color bar, split color bar) 10 KΩ resistor Shorting fixture	TP-48 TP-49	C224 (4.43APC) R210 (DL AMP) C206 (LISSAJOUS 3) C207 (LISSAJOUS 2) C208 (LISSAJOUS 1) [SIGNAL PWB]	<p>1. Connect a 10 KΩ resistor between IC201 pin 13 and +B (12 V). 2. Connect a shorting fixture between IC201 pin 14 and ground. 3. Connect a 5.6 KΩ resistor between IC201 pin 8 and ground. 4. Adjust to synchronize the color bar with C224. 5. Connect an oscilloscope to TP-48 and TP-49 and display X-Y coordinates. 6. Adjust R210 and C206 to obtain the waveform indicated in the figure. If inadequate, adjust C207 and C209. 7. Supply a PAL split color bar input and adjust C224 to minimize coloration in the R-Y and B-Y components.</p> 
Chroma and phase (Video input, NTSC)	Oscilloscope Signal generator (Color bar)	TP-B [CRT SOCKET PWB]	S02(CHROMA) S03(PHASE) [SERVICE MENU]	<p>1. Supply an NTSC color bar to Video A. 2. Set the menu Filter Select to Notch. 3. Connect oscilloscope to TP-B. 4. Alternately adjust S02 and S03 to obtain a straight line waveform. 5. Set Filter Select to Comb.</p> 

Item	Test equipment	Test points	Adjustment locations	Adjustment procedure
Contrast (Video input, NTSC)	Oscilloscope Signal generator (Color bar)	TP-G [CRT SOCKET PWB]	S04 (CONTRAST) [SERVICE MENU]	<p>1. Supply an NTSC color bar input to Video A. 2. Set the Color Off switch to off. 3. Connect oscilloscope to TP-G. 4. Adjust the waveform level to 24 Vp-p with S04. 5. Set the Color Off switch to Color.</p> 
Chroma (Video input, PAL)	Oscilloscope Signal generator (Color bar)	TP-B [CRT SOCKET PWB]	S05 (CHROMA) [SERVICE MENU]	<p>1. Supply an PAL color bar input to Video A. 2. Connect oscilloscope to TP-B. 3. Adjust S05 to obtain a straight line waveform.</p> 
Contrast (Video input, PAL)	Oscilloscope Signal generator (Color bar)	TP-G [CRT SOCKET PWB]	S06 (CONTRAST) [SERVICE MENU]	<p>1. Supply an PAL color bar input to Video A. 2. Set the Color Off switch to off. 3. Connect oscilloscope to TP-G. 4. Adjust the waveform level to 24 Vp-p with S06. 5. Set the Color Off switch to Color.</p> 
Phase (Video input,NTSC 4.43)	Oscilloscope Signal generator (Color bar NTSC 4.43)	TP-B [CRT SOCKET PWB]	S07 (PHASE) [SERVICE MENU]	<p>1. Supply an NTSC 4.43 color bar input to Video A. 2. Connect oscilloscope to TP-B. 3. Adjust S07 to obtain a straight line waveform.</p> 

Item	Test equipment	Test points	Adjustment locations	Adjustment procedure
Chroma and phase (Y/C input, NTSC)	Oscilloscope Signal generator (Color bar)	TP-B [CRT SOCKET PWB]	S08 (CHROMA) S09(PHASE) [SERVICE MENU]	<p>1. Supply an NTSC color bar input to Y/C In. 2. Connect oscilloscope to TP-B. 3. Alternately adjust S08 and S09 to obtain a straight line waveform. 4. Set Filter Select to Comb.</p> 
Contrast (Y/C input, NTSC)	Oscilloscope Signal generator (Color bar)	TP-G [CRT SOCKET PWB]	S10 (CONTRAST) [SERVICE MENU]	<p>1. Supply an NTSC color bar input to Y/C in. 2. Set the Color Off switch to off. 3. Connect oscilloscope to TP-G. 4. Adjust the waveform level to 24 Vp-p with S10. 5. Set the Color Off switch to Color.</p> 
Chroma (Y/C input, PAL)	Oscilloscope Signal generator (Color bar)	TP-B [CRT SOCKET PWB]	S11 (CHROMA) [SERVICE MENU]	<p>1. Supply a PAL color bar input to Y/C in. 2. Connect oscilloscope to TP-B. 3. Adjust S11 to obtain a straight line waveform.</p> 
Chroma (Component input, NTSC)	Oscilloscope Signal generator (Color bar)	TP-B [CRT socket PWB]	S12 (CHROMA) [SERVICE MENU]	<p>1. Set the menu RGB/Component to Component. 2. Supply an NTSC color bar input to Component In. 3. Connect oscilloscope to TP-B. 4. Adjust S12 to obtain a straight line waveform. 5. Return the menu RGB/Component to original setting.</p> 

Item	Test equipment	Test points	Adjustment locations	Adjustment procedure
Contrast (Component input, NTSC)	Oscilloscope Signal generator (Color bar)	TP-G [CRT SOCKET PWB]	S13 (CONTRAST) [SERVICE MENU]	<p>1. Set the menu RGB/Component to Component. 2. Supply an NTSC color bar input to Component In. 3. Set the Color Off switch to off. 4. Connect oscilloscope to TP-G. 5. Adjust the waveform level to 32 Vp-p with S13. 6. Set the Color Off switch to Color. 7. Return the menu RGB/Component to original setting.</p> 
Contrast (RGB input, NTSC)	Oscilloscope Signal generator (Color bar)	TP-G [CRT SOCKET PWB]	S14 (CONTRAST) [SERVICE MENU]	<p>1. Supply an NTSC color bar input to RGB In. 2. Connect oscilloscope to TP-G. 3. Adjust the waveform level to 32 Vp-p with S14.</p> 
Color temperature (9300 K)	Signal generator (Resolution pattern, color bar) Color analyzer or color temperature meter		W01 (R CUTOFF) W02 (G CUTOFF) W03 (B CUTOFF) W04(R DRIVE) W05(G DRIVE) W06(B DRIVE) [SERVICE MENU]	<p>1. Supply a resolution pattern input. 2. Check that the menu Color Temp. is 9300. 3. Set the Color Off switch to off. 4. Set W01 to 26, W03 to 16, W05 to 32, and W02 to 25. 5. Adjust W04 and W06 for the specified color temperature (reference: W04 = 31, W06 = 29) ($X = 0.283$, $Y = 0.297$) 6. Supply a color bar input (black and white). 7. Check for proper white balance tracking. If deviated in the dark components, adjust with W01 and W03.</p> <ul style="list-style-type: none"> • Adjustment with color temperature meter: Apply the sensor to the CRT, adjust and measure. If deviated, repeatedly adjust and measure to obtain the specified color temperature.

Item	Test equipment	Test points	Adjustment locations	Adjustment procedure
Color temperature (6500 K)	Signal generator (Resolution pattern, color bar) Color analyzer or color temperature meter		W07 (R CUTOFF) W08 (G CUTOFF) W09 (B CUTOFF) W10 (R DRIVE) W11 (G DRIVE) W12(B DRIVE) [SERVICE MENU]	<ol style="list-style-type: none"> Supply a resolution pattern input. Set the menu Color Temp. to 6500. Set the Color Off switch to off. Set W07 to 37, W09 to 08, and W08 to 25. Set W11 to 32. Adjust W10 and W12 for the specified color temperature (reference: W10 = 33, W12 = 23) ($X = 0.313$, $Y = 0.329$) Supply a color bar input (black and white). Check for proper white balance tracking. If deviated in the dark components, adjust with W07 and W09. Return the menu Color Temp. to original setting. <p>● Adjustment with color temperature meter: Apply the sensor to the CRT, adjust and measure. If deviated, repeatedly adjust and measure to obtain the specified color temperature.</p>
Bright	Signal generator (Split color bar)		S01 (BRIGHT) [SERVICE MENU]	<ol style="list-style-type: none"> Adjust S01 to where the split color 0 % black component faintly brightens (as -1% black component not brightens). Supply another signal and confirm absence of black deviation.

BM-1400PN-A(A) STANDARD CIRCUIT DIAGRAM

■NOTE ON USING CIRCUIT DIAGRAMS

1.SAFETY

The components identified by the  symbol and shading are critical for safety. For continued safety replace safety critical components only with manufactures recommended parts.

2.SPECIFIED VOLTAGE AND WAVEFORM VALUES

The voltage and waveform values have been measured under the following conditions.

- (1)Input signal :PAL Colour bar signal
- (2)Setting positions of each knob/button and variable resistor :Original setting position when shipped
- (3)Internal resistance of tester :DC 20kΩ/V
- (4)Oscilloscope sweeping time :H ⇒ 20μS/div
:V ⇒ 5mS/div
:Others ⇒ Sweeping time is specified
- (5)Voltage values :All DC voltage values

* Since the voltage values of signal circuit vary to some extent according to adjustments, use them as reference values.

3.INDICATION OF PARTS SYMBOL[EXAMPLE]

●In the PW board :R1209→R209

4.INDICATIONS ON THE CIRCUIT DIAGRAM

(1)Resistors

●Resistance value

- No unit :[Ω]
- K :[KΩ]
- M :[MΩ]

●Rated allowable power

- No indication :1/6[W]
- Others :As specified

●Type

- No indication :Carbon resistor
- OMR :Oxide metal film resistor
- MFR :Metal film resistor
- MPR :Metal plate resistor
- UNFR :Uninflammable resistor
- FR :Fusible resistor

* Composition resistor 1/2 [W] is specified as 1/2S or Comp.

(2)Capacitors

●Capacitance value

- 1or higher :[pF]
- less than 1 :[μF]

●Withstand voltage

- No indication :DC50[V]
- Others :DC withstand voltage[V]
- AC indicated :AC withstand voltage[V]

* Electrolytic Capacitors

47/50[Example]:Capacitance value[μF]/withstand voltage[V]

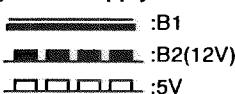
●Type

- | | |
|---------------|-------------------------------------|
| No indication | :Ceramic capacitor |
| MY | :Mylar capacitor |
| MM | :Metallized mylar capacitor |
| PP | :Polypropylene capacitor |
| MPP | :Metallized polypropylene capacitor |
| MF | :Metallized film capacitor |
| TF | :Thin film capacitor |
| BP | :Bipolar electrolytic capacitor |
| TAN | :Tantalum capacitor |

(3)Coils

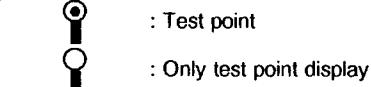
- | | |
|---------|---------------|
| No unit | :[μH] |
| Others | :As specified |

(4)Power Supply



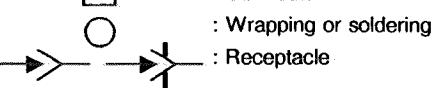
* Respective voltage values are indicated.

(5)Test Point



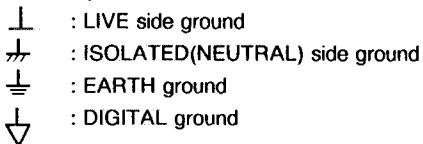
: Test point
: Only test point display

(6)Connecting method



: Connector
: Wrapping or soldering
: Receptacle

(7)Ground symbol



5.NOTE FOR REPAIRING SERVICE

This model's power circuit is partly different in the GND. The difference of the GND is shown by the LIVE : () side GND and the ISOLATED(NEUTRAL) : () side GND. Therefore, care must be taken for the following points.

(1) Do not touch the LIVE side GND or the LIVE side GND and the ISOLATED(NEUTRAL) side GND simultaneously. If the above caution is not respected, an electric shock may be caused. Therefore, make sure that the power cord is surely removed from the receptacle when, for example, the chassis is pulled out.

(2) Do not short between the LIVE side GND and ISOLATED(NEUTRAL) side GND or never measure with a measuring apparatus (oscilloscope, etc.) the LIVE side GND and ISOLATED(NEUTRAL) side GND at the same time. If the above precaution is not respected, a fuse or any parts will be broken.

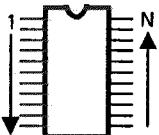
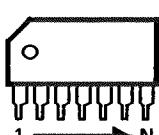
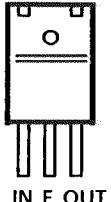
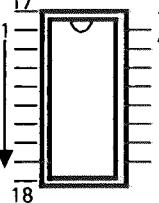
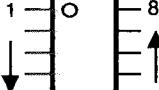
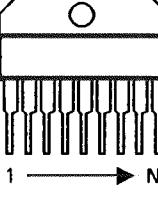
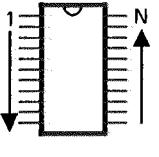
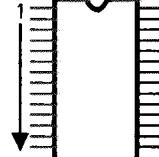
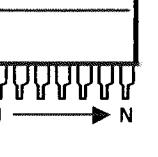
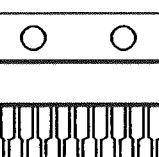
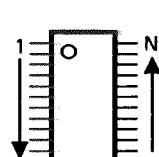
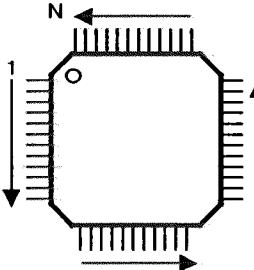
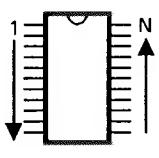
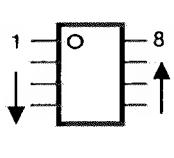
◇ Since the circuit diagram is a standard one, the circuit and circuit constants may be subject to change for improvement without any notice.

CONTENTS

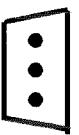
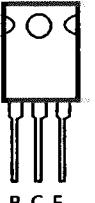
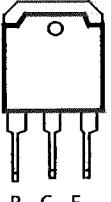
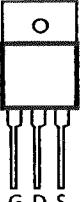
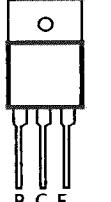
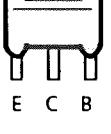
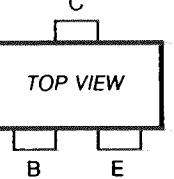
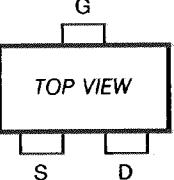
■ SEMICONDUCTOR SHAPES	2-3
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2. FRONT CONTROL PWB (FX-4034A)	
3. INPUT PWB (FX-6052A)	
4. MICOM PWB (FX-5018A)	
5. SIGNAL PWB (FX-1084A)	
6. DEFLECTION PWB (FX-2046A)	
7. CRT SOCKET PWB (FX-3028A)	

■ SEMICONDUCTOR SHAPES

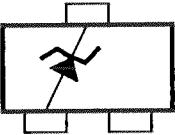
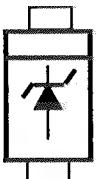
● IC

 <p>TC4053BP TC4066BP HD74LS04P TC4538BP HD74LS05P HD74LS00P AN5640</p>	 <p>LA7016</p>	 <p>AN7808 AN7812F TA79012S AN7805F</p>
 <p>HA11423</p>	 <p>NJM4560D μPC358 ST24BM-1400</p>	 <p>μPC1498H</p>
 <p>FA5301P</p>	 <p>TDA4680 TDA4670 AN5625N</p>	 <p>μPC358HA</p>
 <p>AN5265</p>	 <p>MB90077PF-109</p>	 <p>(Flat package IC)</p> <p>MB89647PF-113 CXD2018Q</p>
<p>(Flat package IC)</p>  <p>HD74HC32FP HD74HC158FP</p>	<p>(Flat package IC)</p>  <p>μPC4558G-W</p>	

● TRANSISTOR

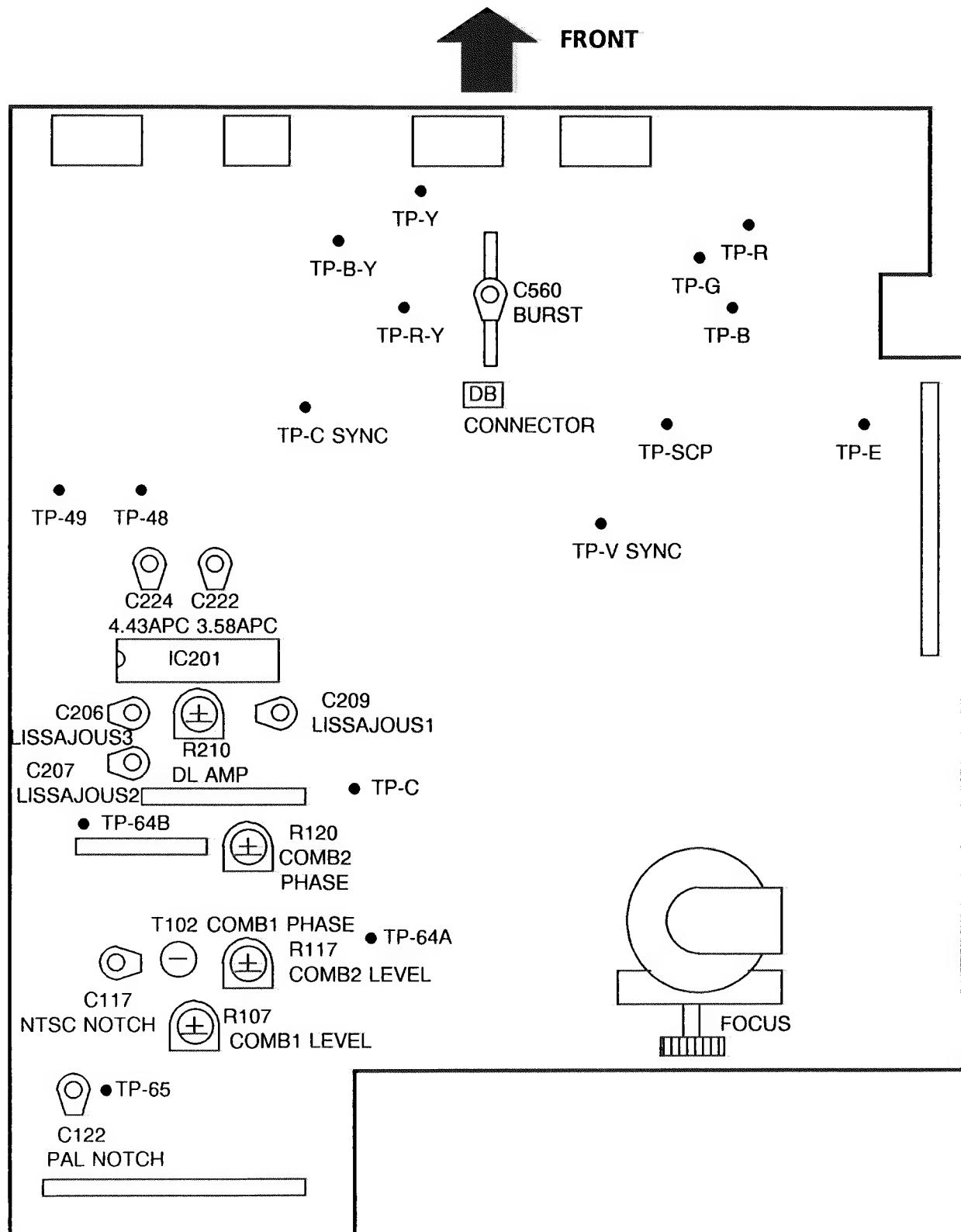
 <p>[Bottom View]</p> <p>2SC1740S(R) 2SC3311A(Q)-T</p>	 <p>[Bottom View]</p> <p>2SC3334 2SA1321 2SC1472K 2SA1370(E) 2SA562TM 2SC3187-T 2SC1959(Y) 2SA1309 2SC1815(YG)-T</p>	 <p>2SC4632</p>
 <p>2SC4589-C1</p>	 <p>2SD1408 2SD1409</p>	 <p>2SK1118</p>
 <p>2SC4544</p>	 <p>2SC4502</p>	<p>(CHIP TRANSISTOR)</p>  <p>TOP VIEW</p> <p>2SC2712(YG) 2SA1162(YG)</p>
<p>(CHIP FET)</p>  <p>2SK374(Q)</p>		

● DIODE

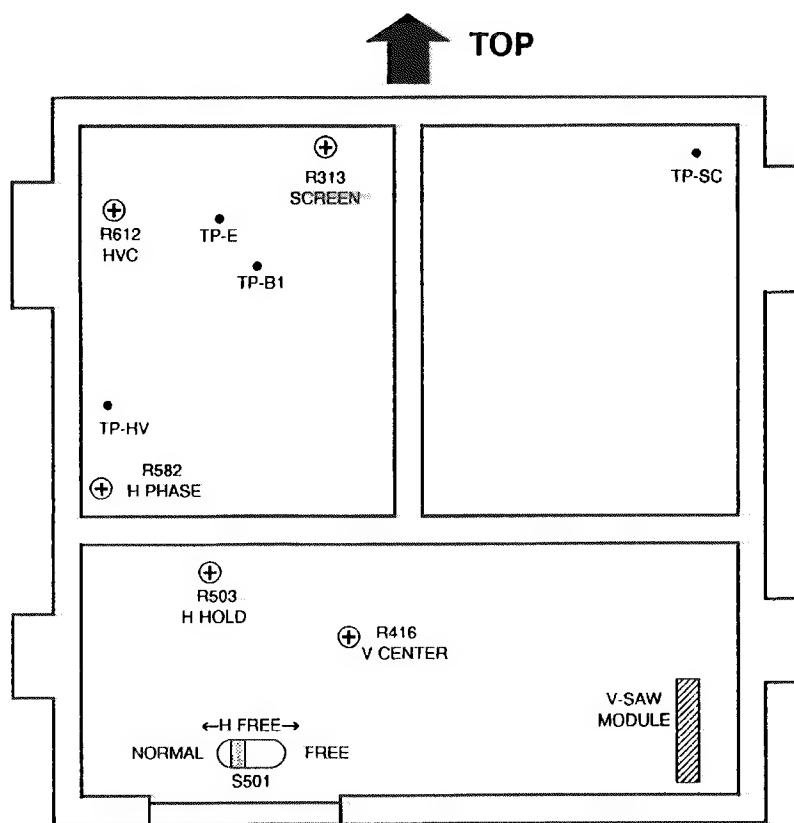
<p>(CHIP DIODE)</p>  <p>TOP VIEW</p> <p>MA3056(L)-W MA3150(M)-W MA151K-W</p>	<p>(CHIP DIODE)</p>  <p>TOP VIEW</p> <p>MA8054-W MA8130-W</p>
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■ ALIGNMENT LOCATION

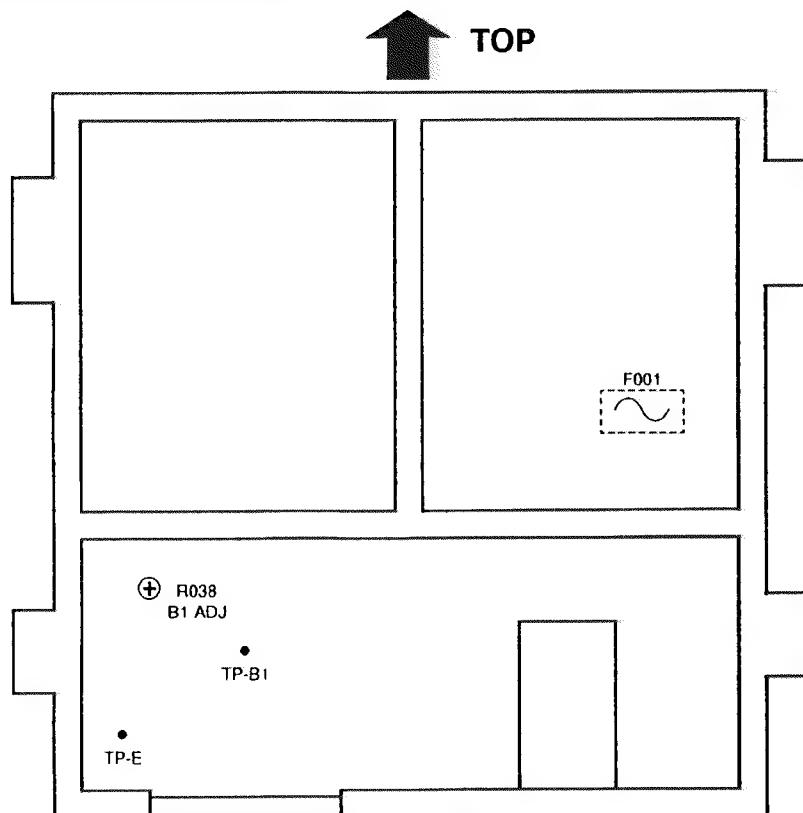
- SIGNAL PWB (PARTS SIDE)



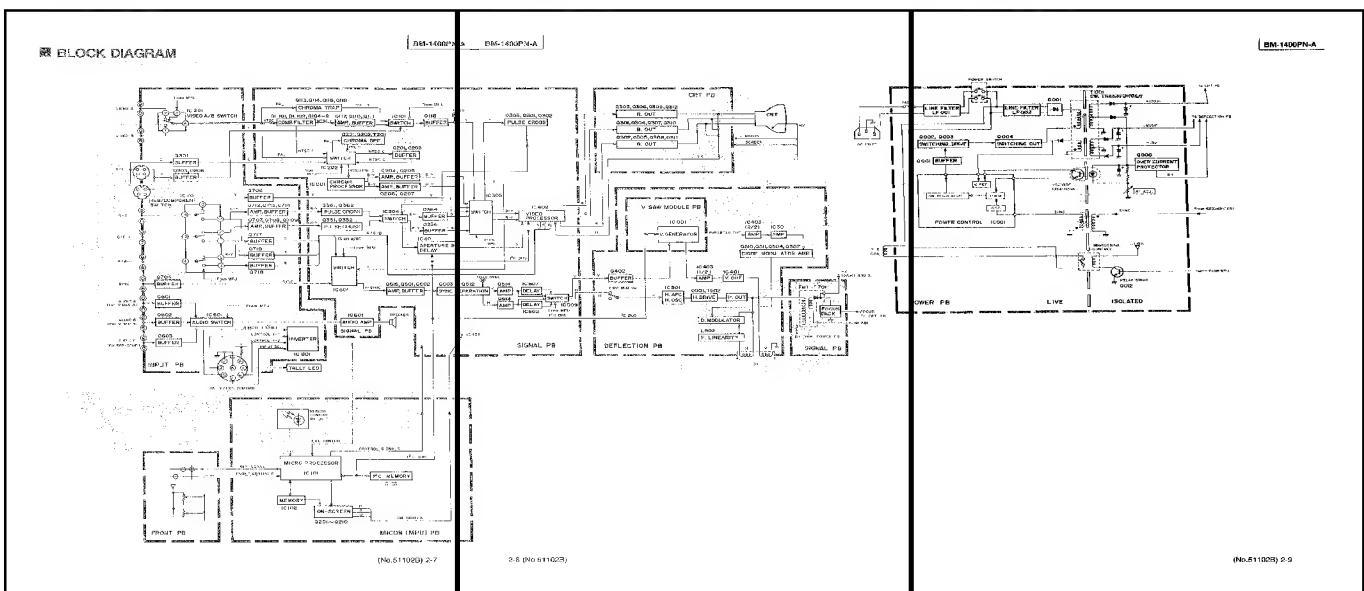
• DEFLECTION PWB (PATTERN SIDE)



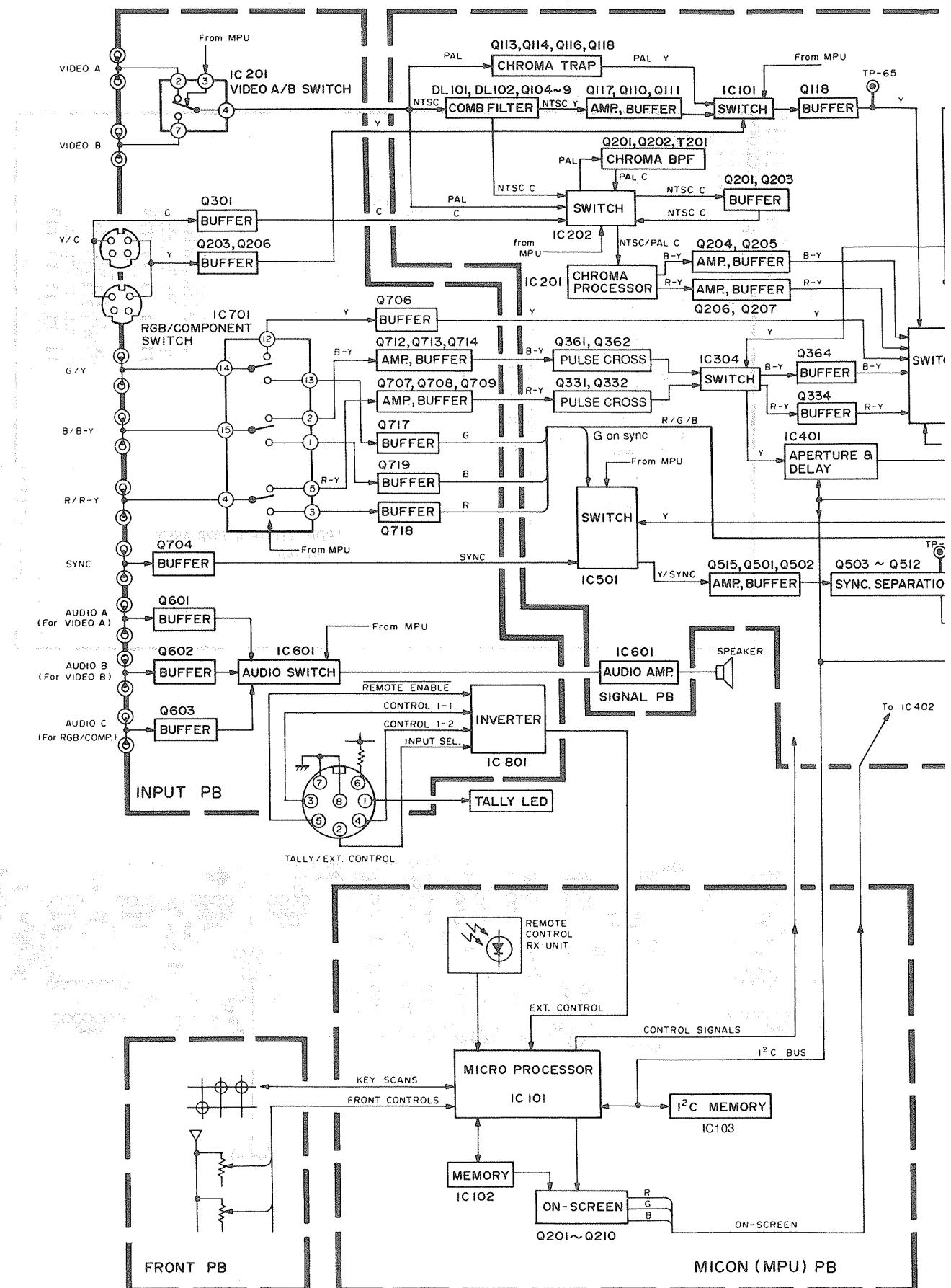
• POWER PWB (PATTERN SIDE)

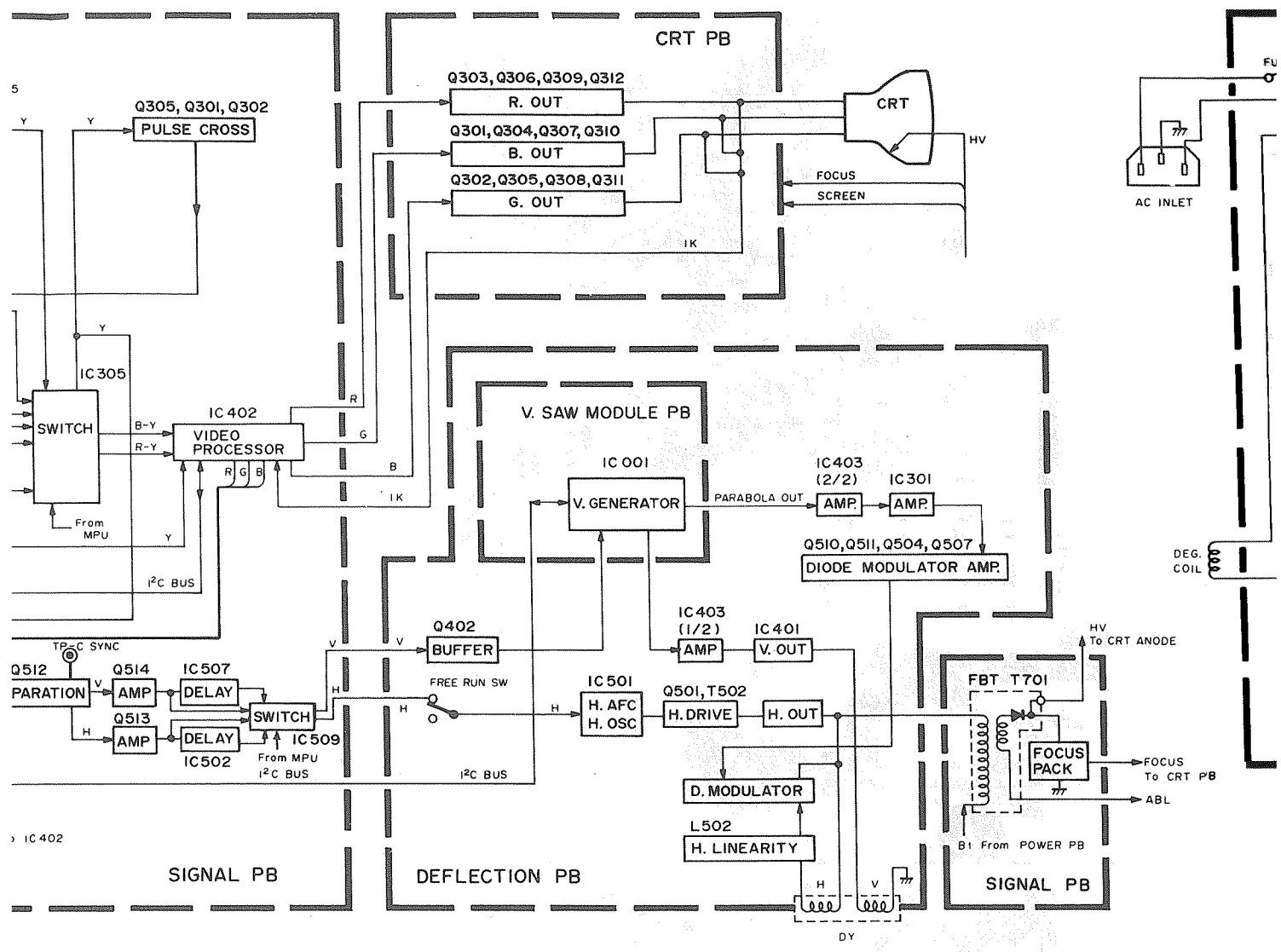


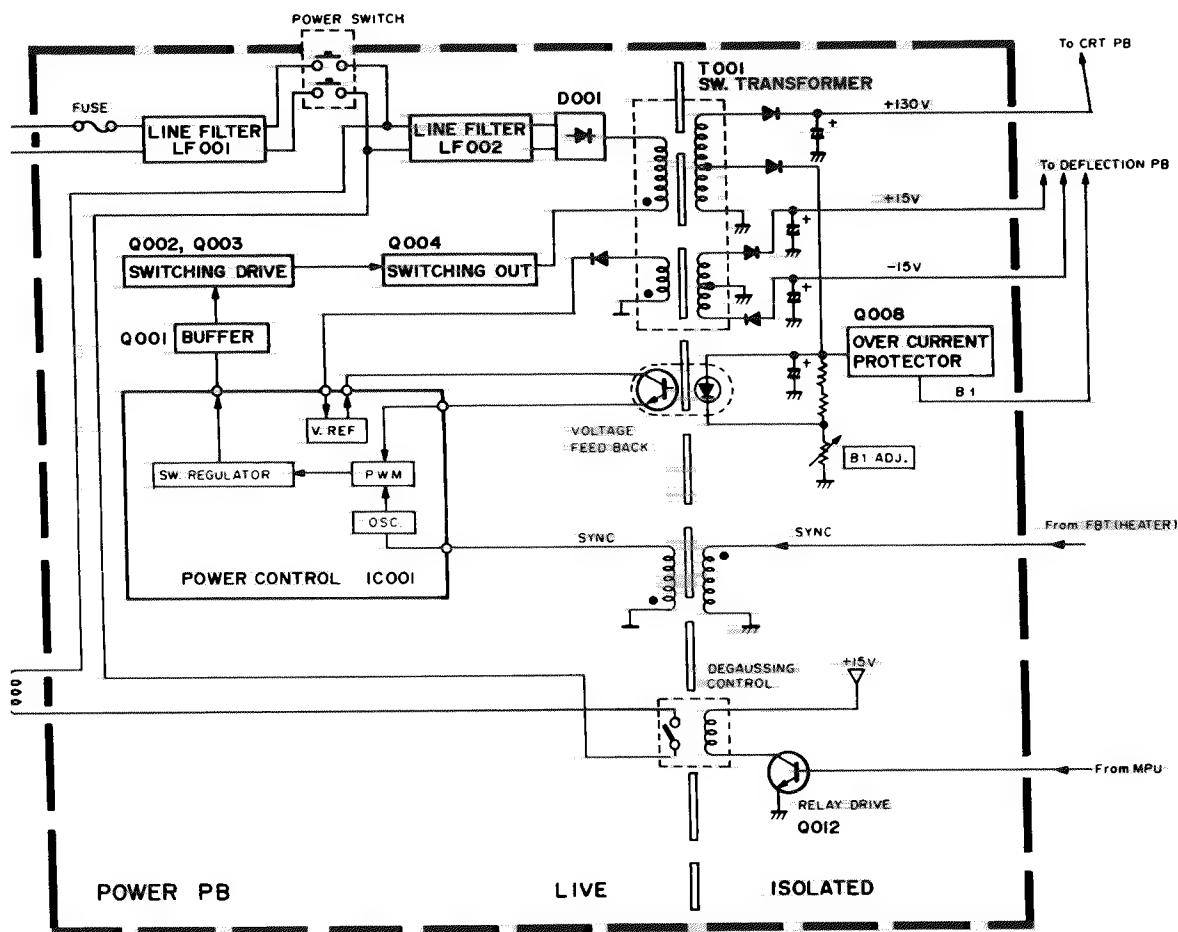
P2-7,8,9-a



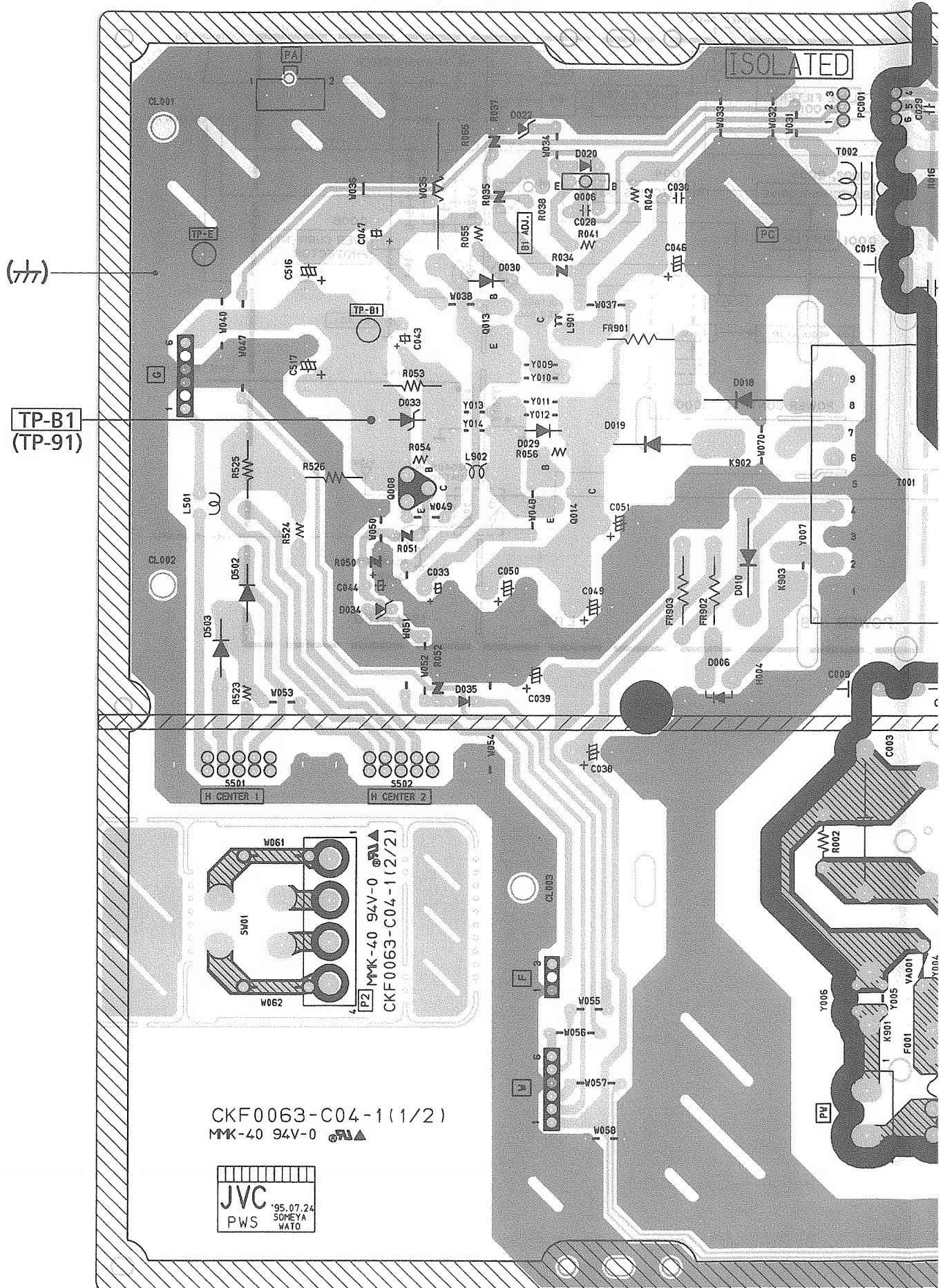
BLOCK DIAGRAM

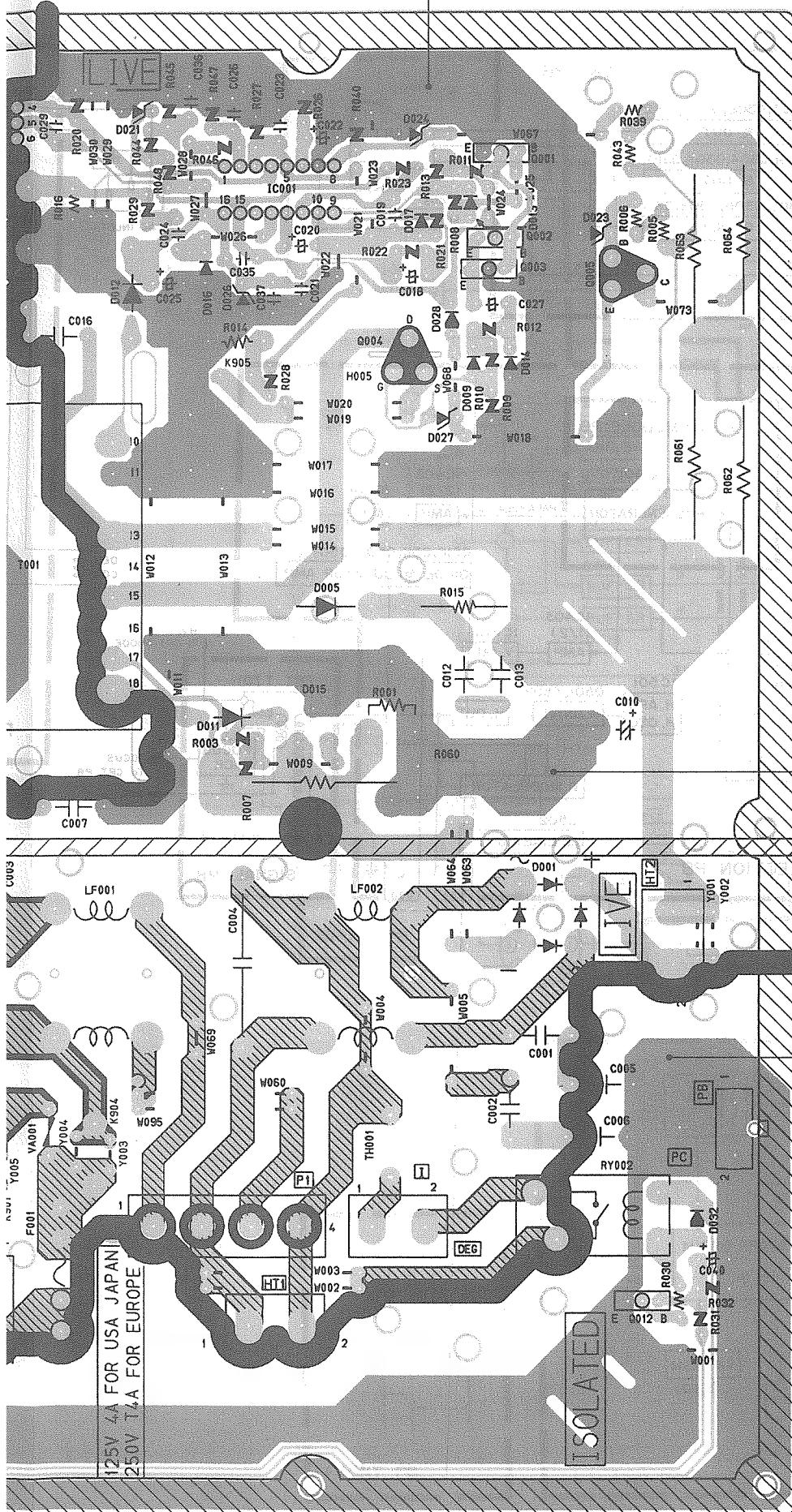




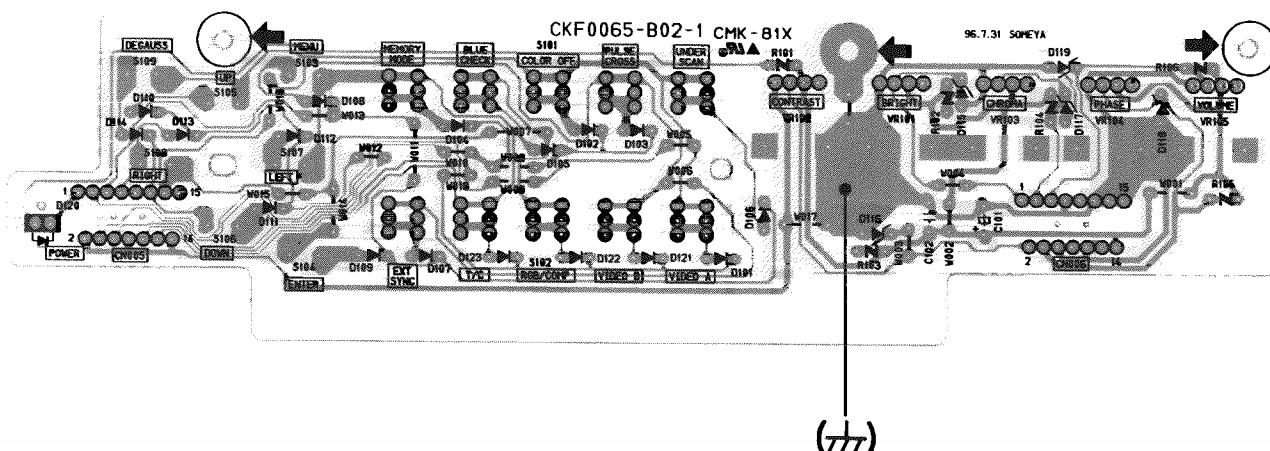
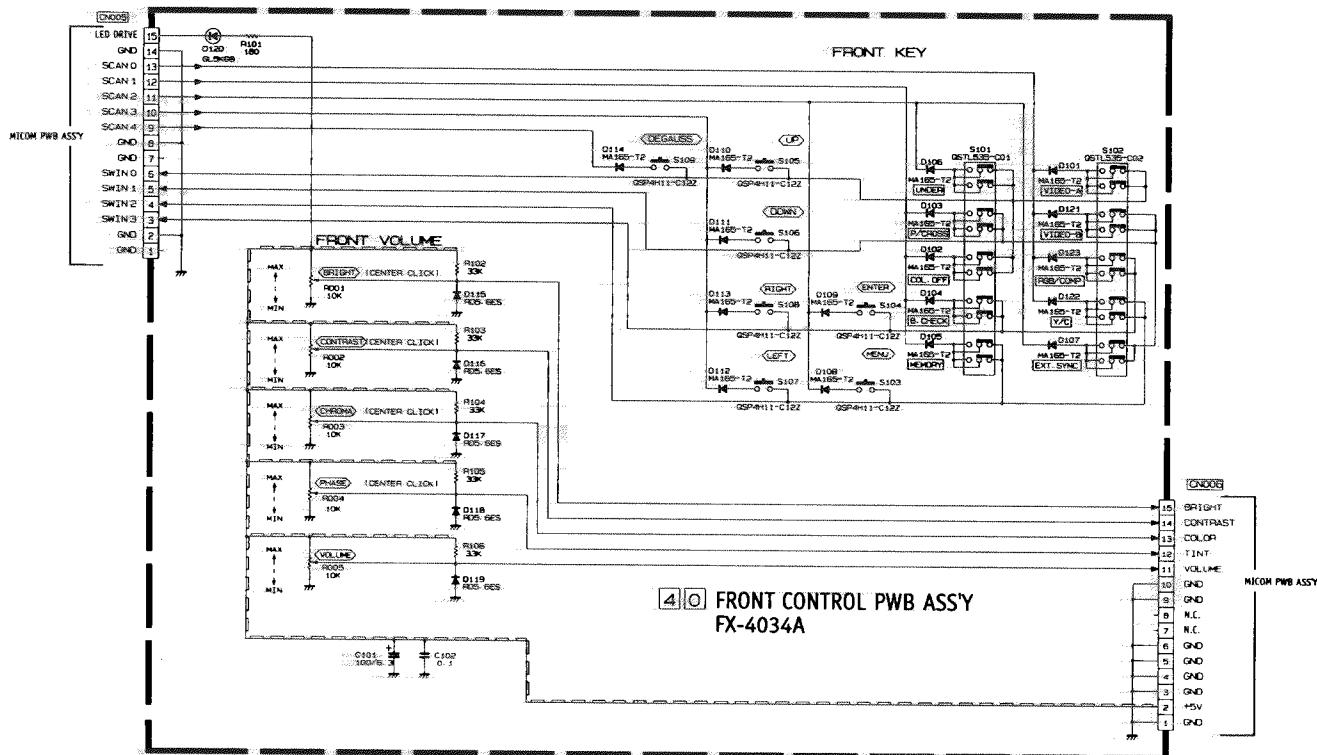


POWER PWB PATTERN DIAGRAM (FX-9038A)

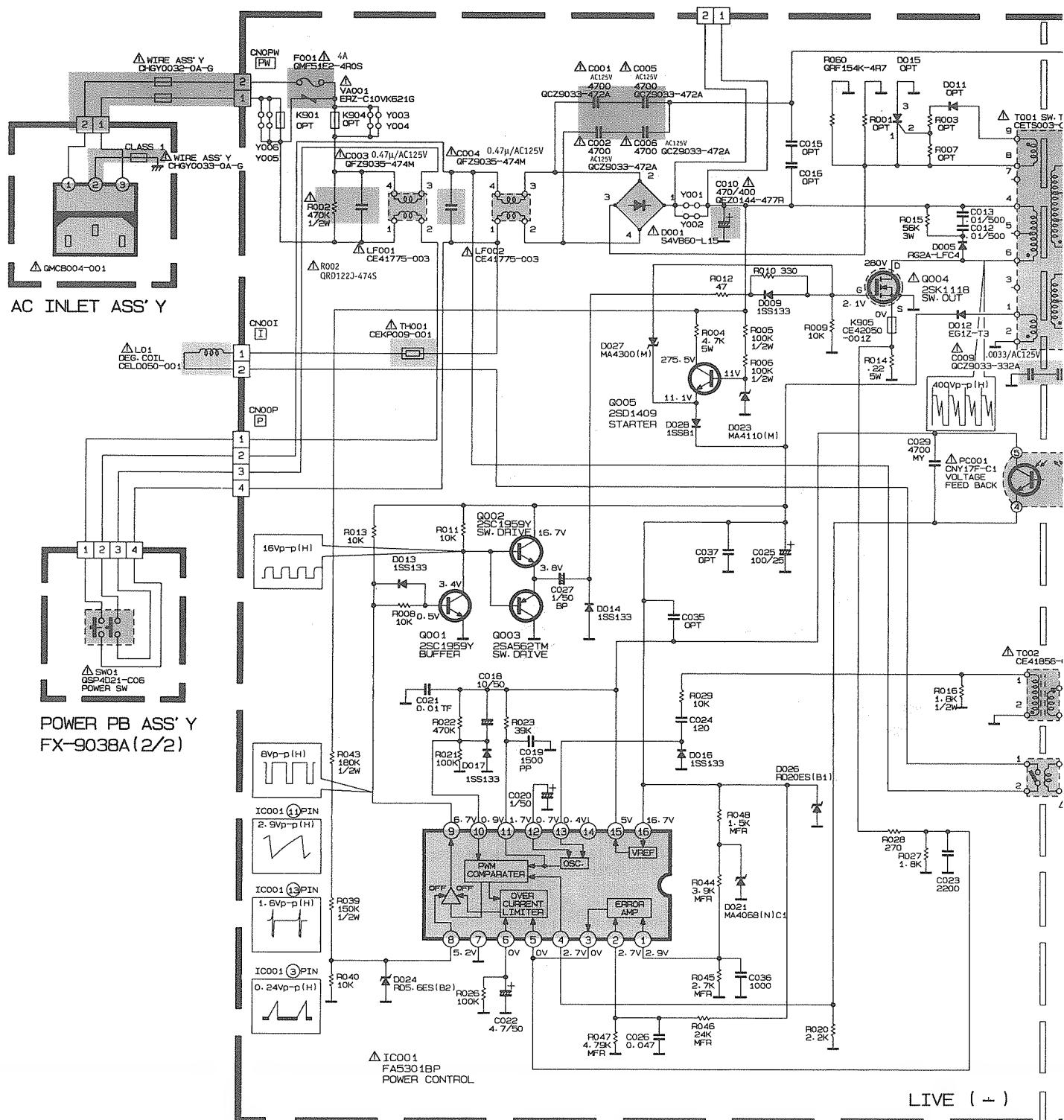


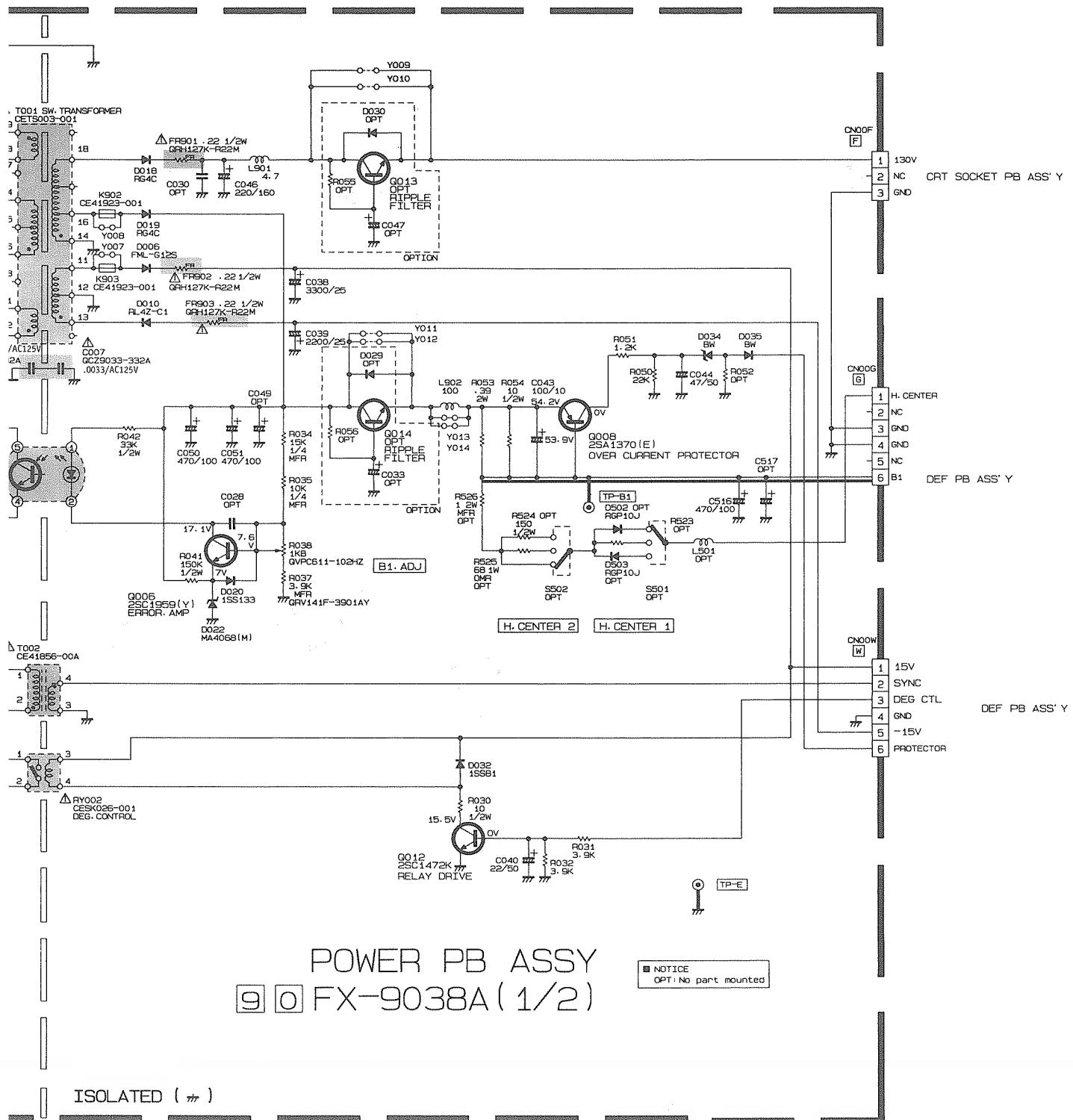


FRONT CONTROL PWB CIRCUIT DIAGRAM / PATTERN DIAGRAM (FX-4034A)

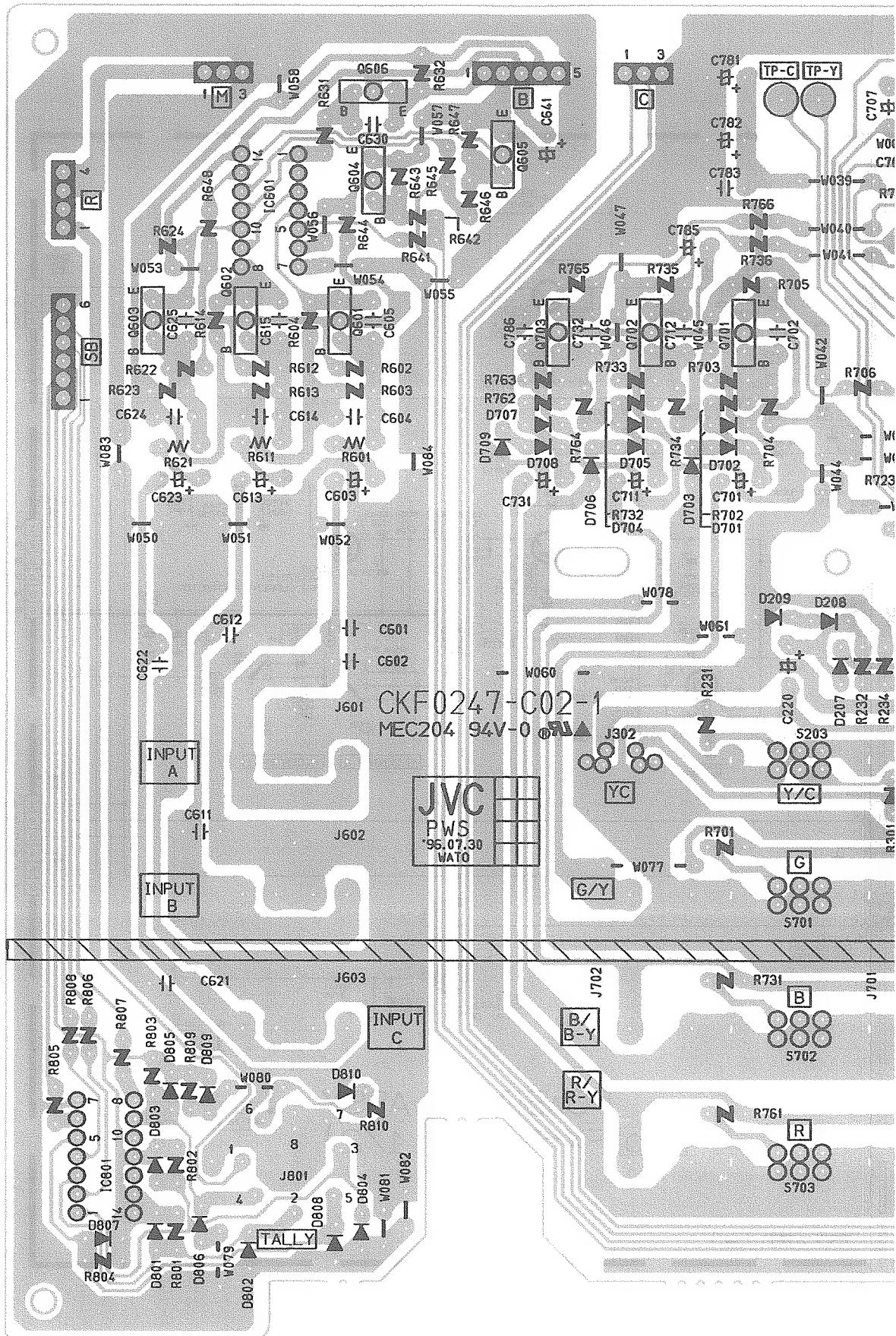


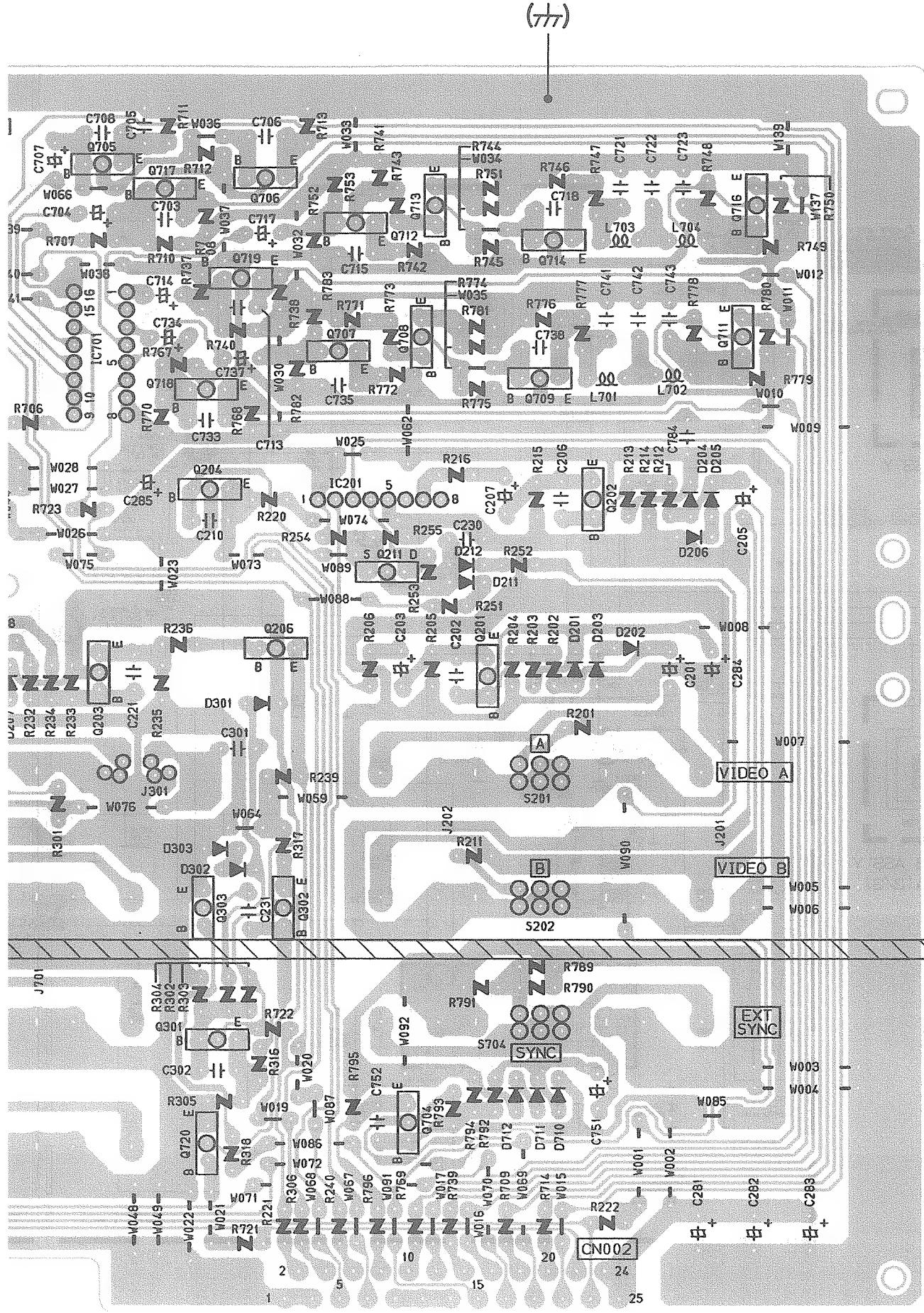
POWER PWB CIRCUIT DIAGRAM



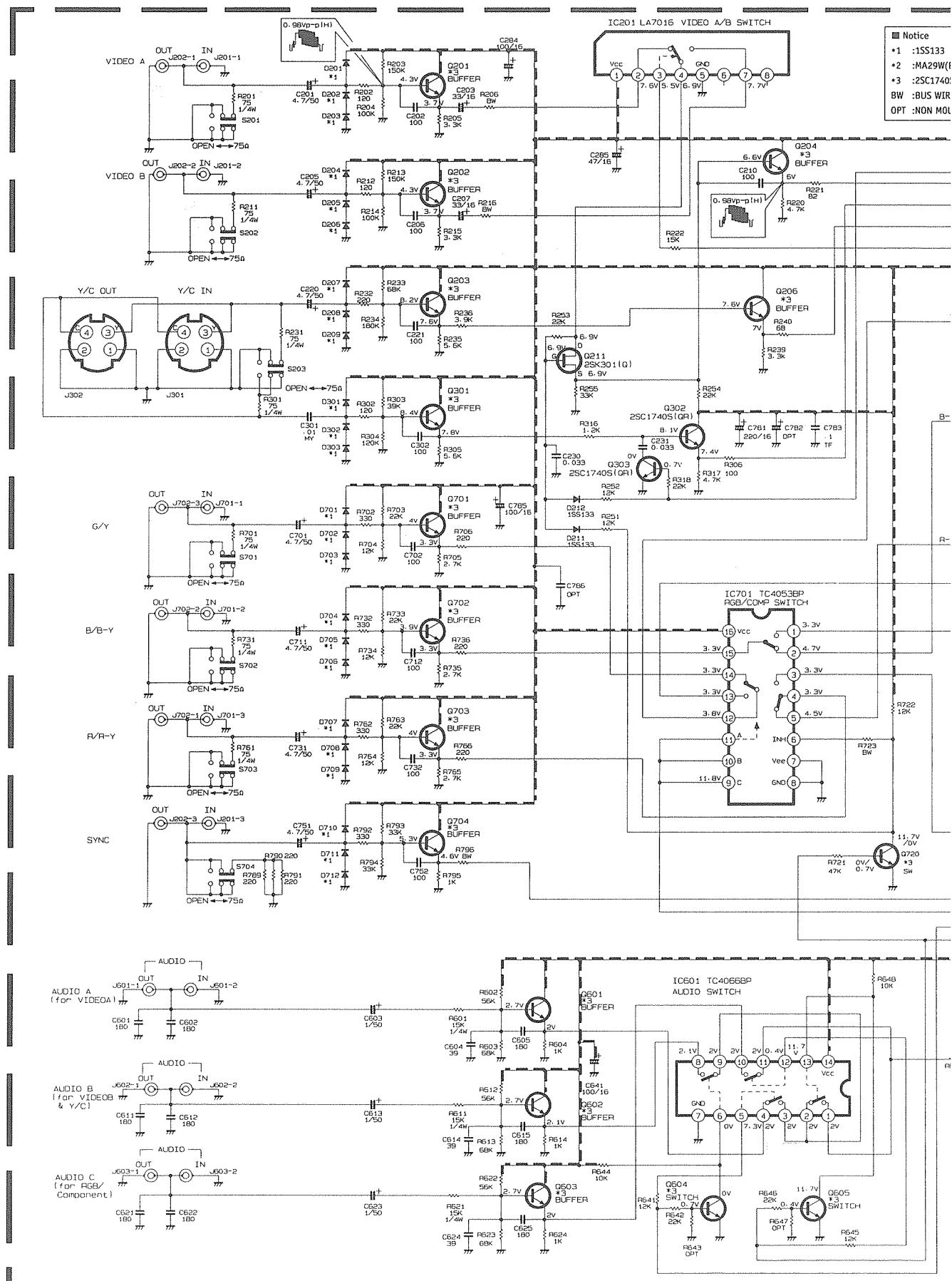


INPUT PWB PATTERN DIAGRAM (FX-6052A)

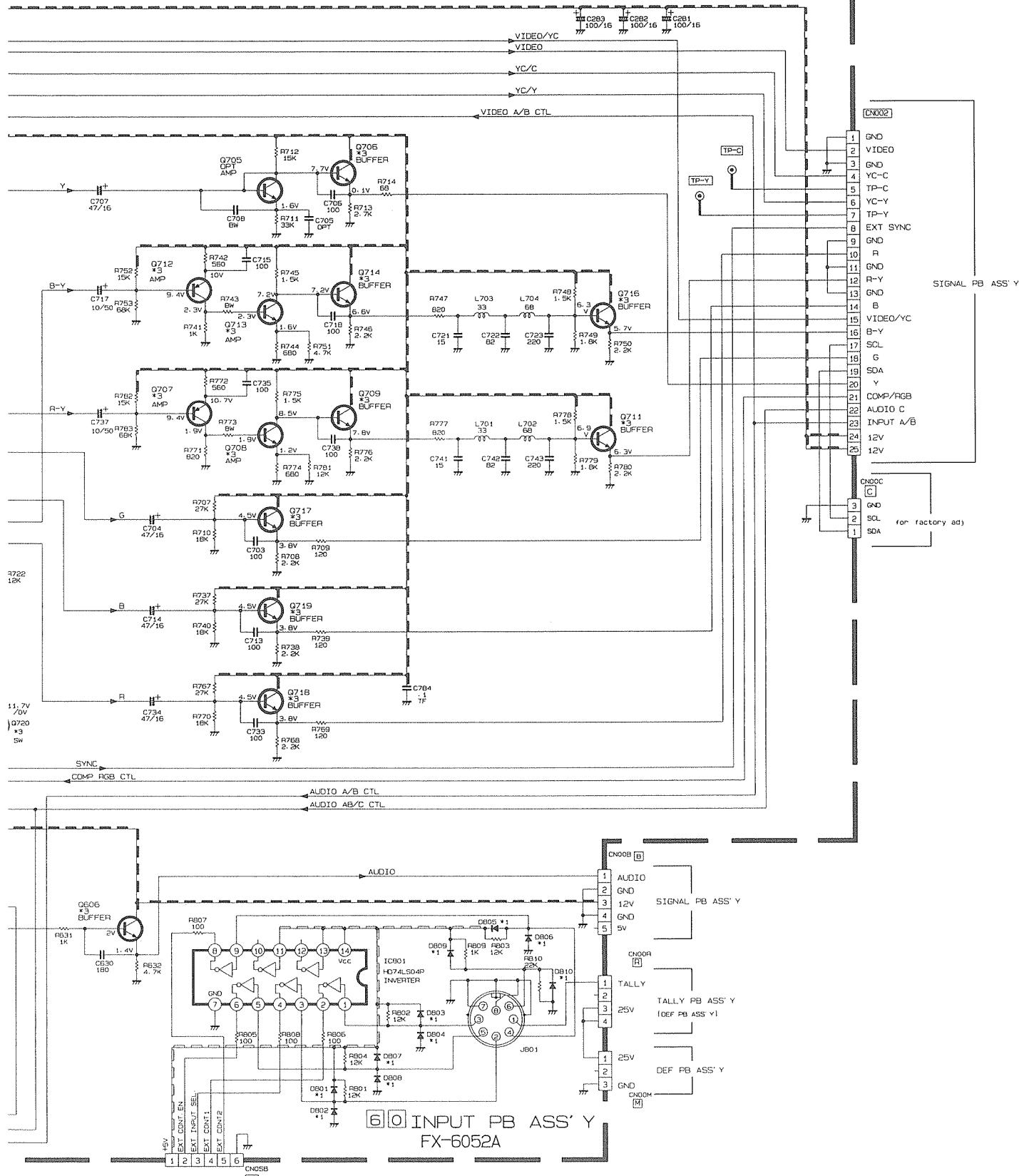




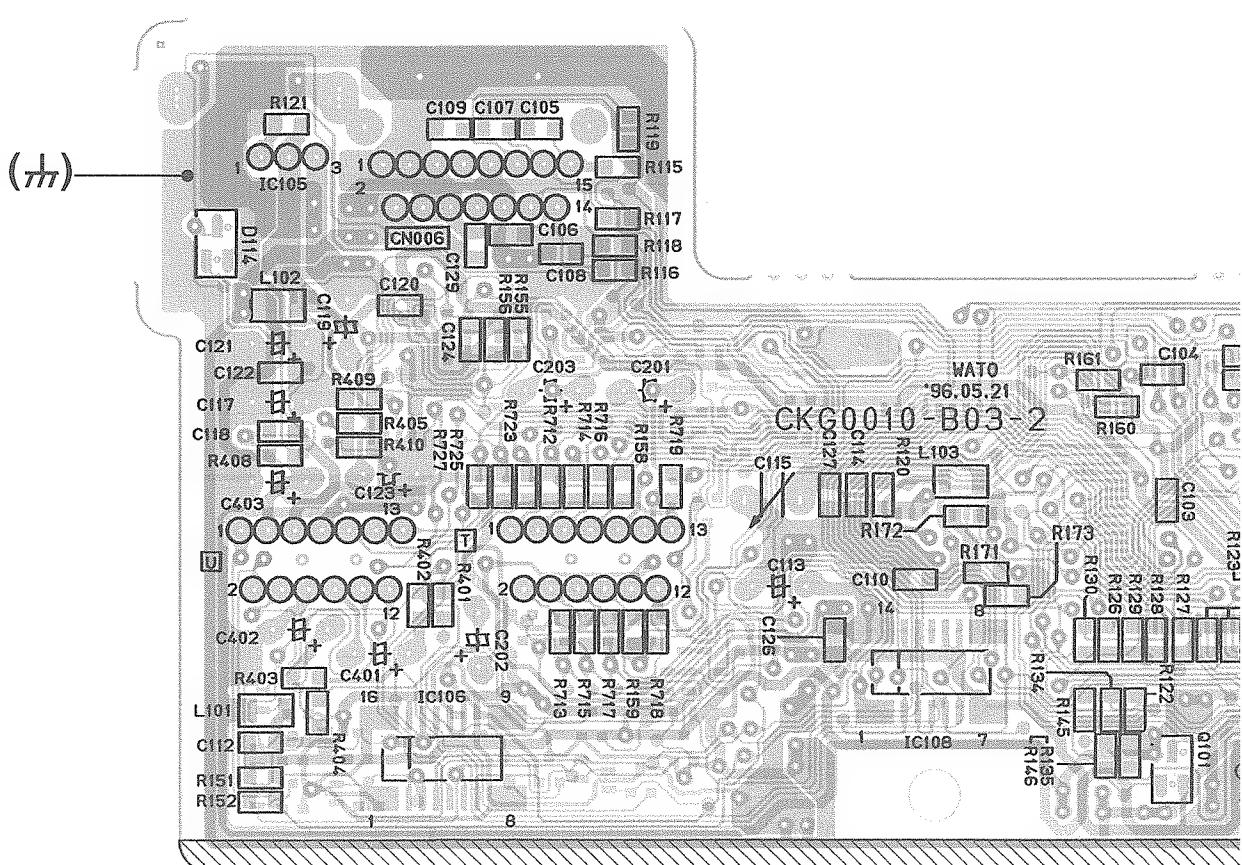
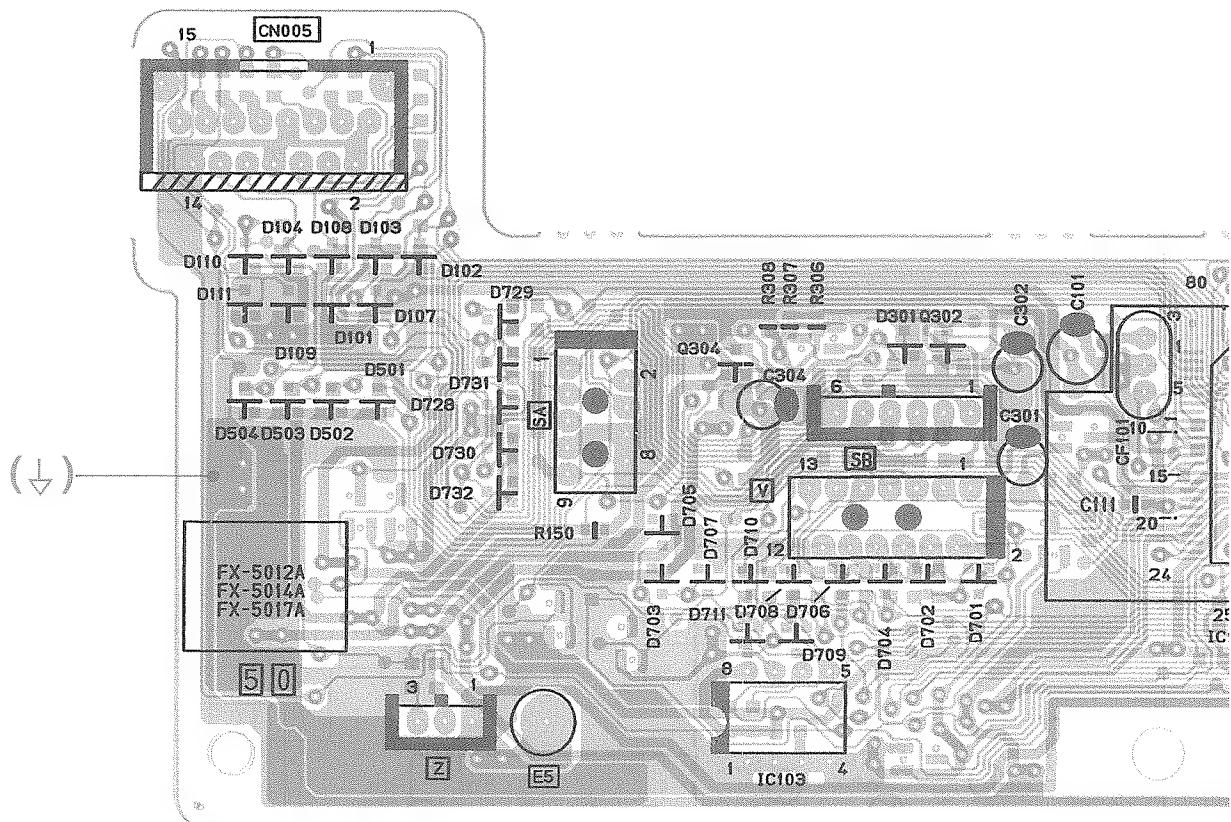
INPUT PWB CIRCUIT DIAGRAM

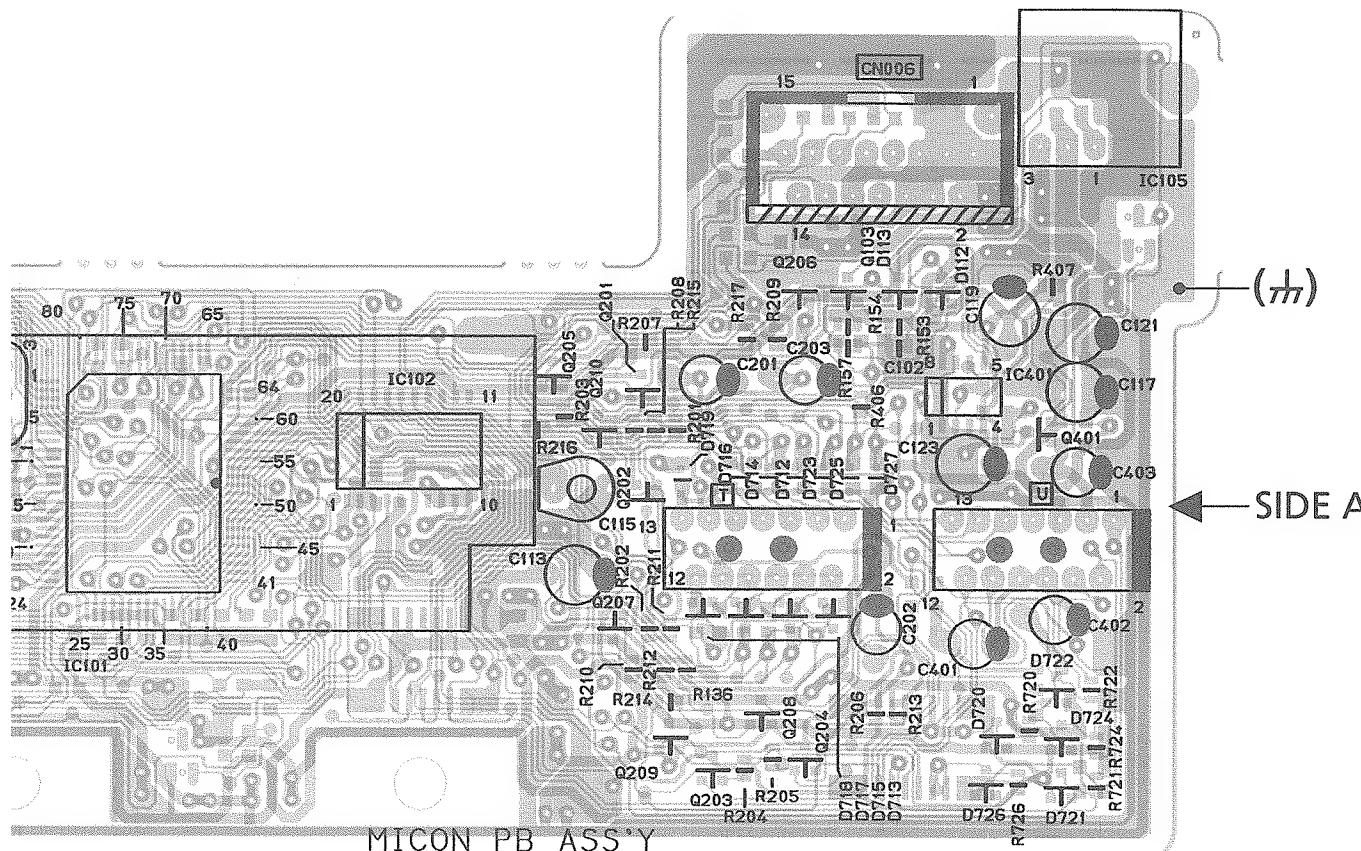


I Notice
 1 :1SS133
 2 :MA29W(B)
 3 :2SC1740S(R)
 W :BUS WIRE
 PT :NON MOUNT(OPEN)

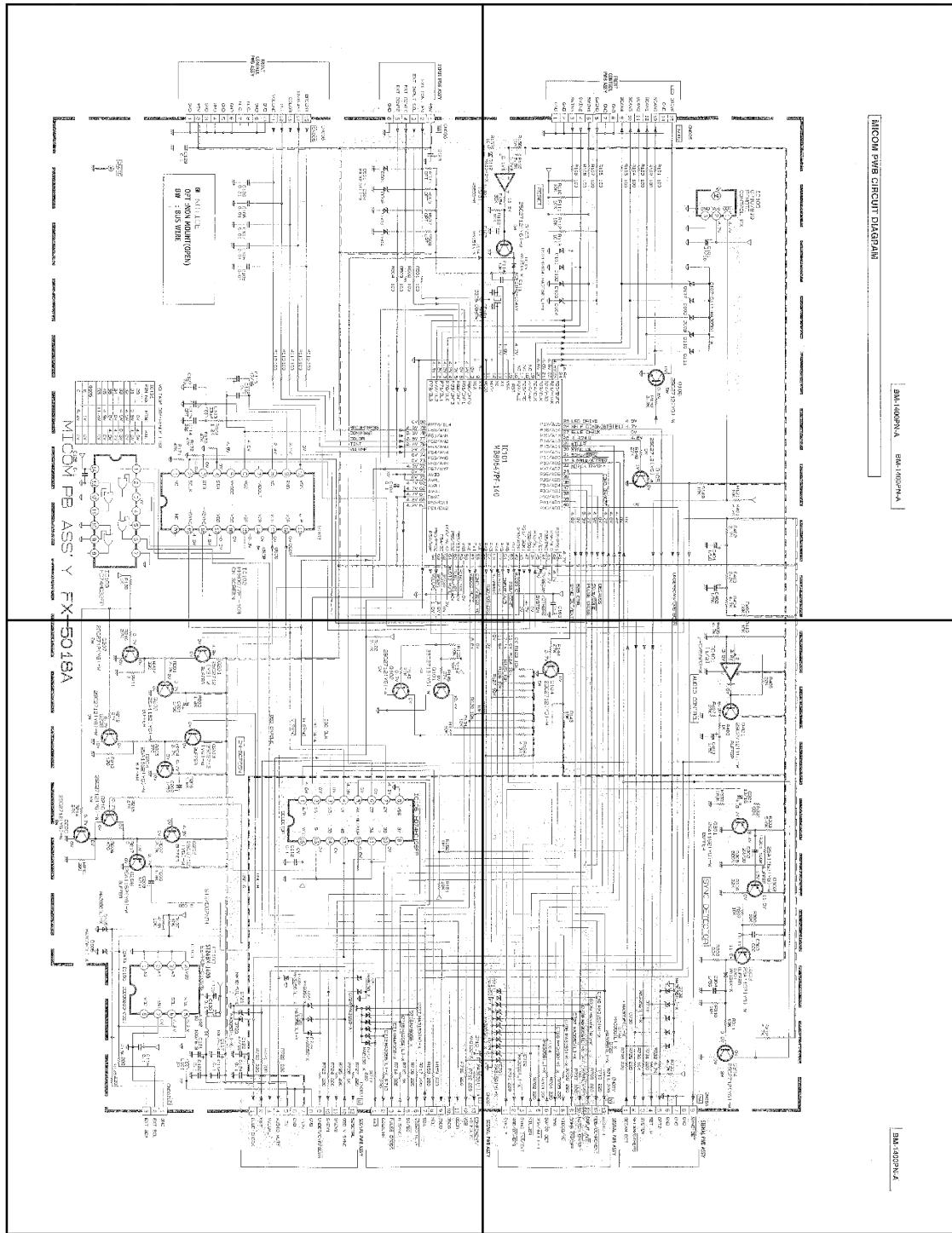


MICOM PWB PATTERN DIAGRAM (FX-5018A)





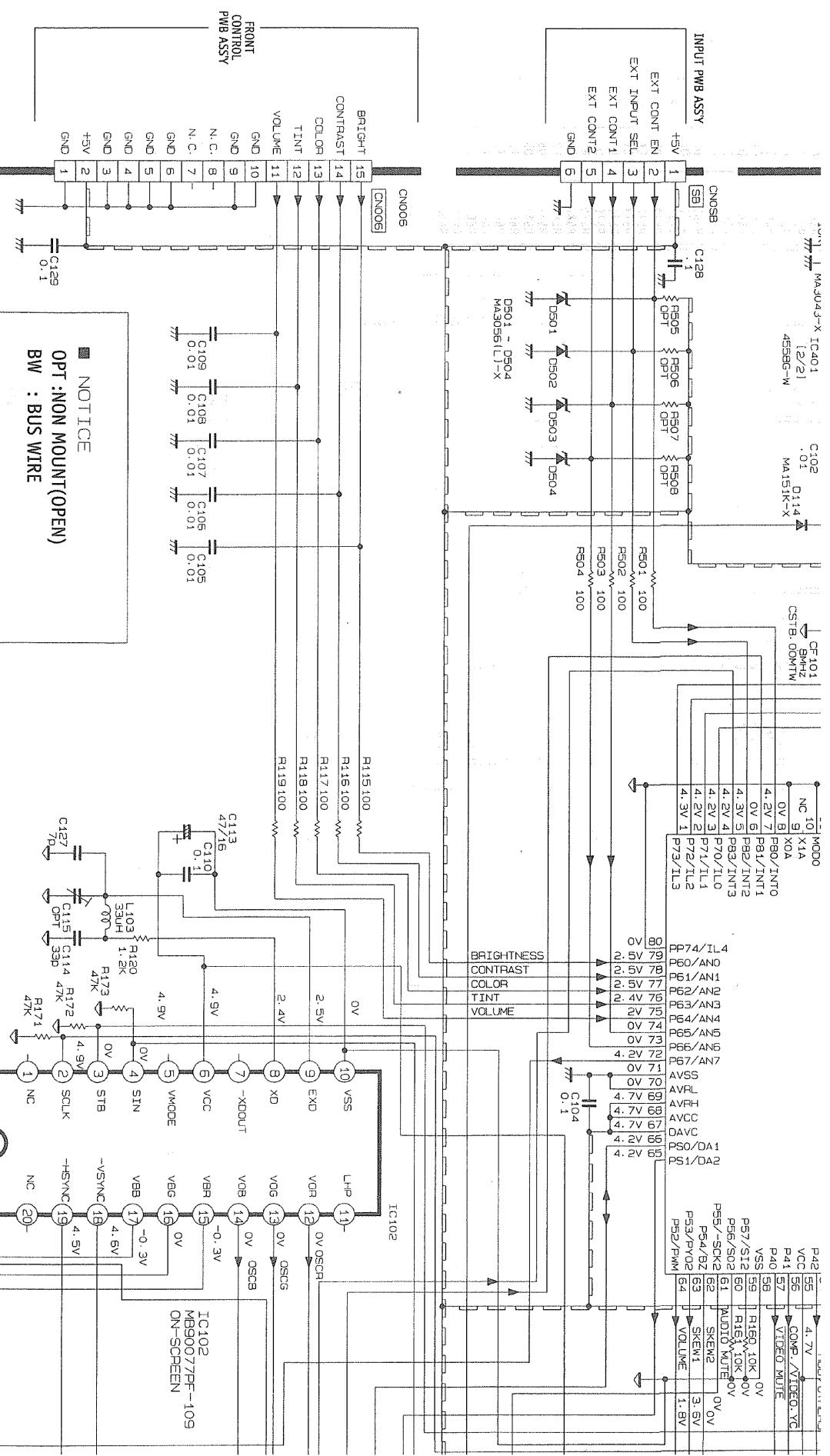
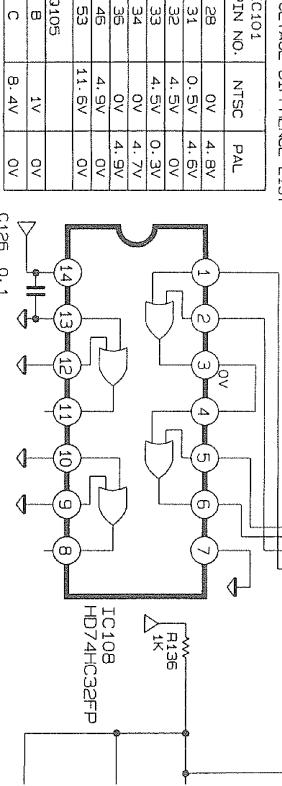
P2-21,22,23-a



P2-21,22,23-c

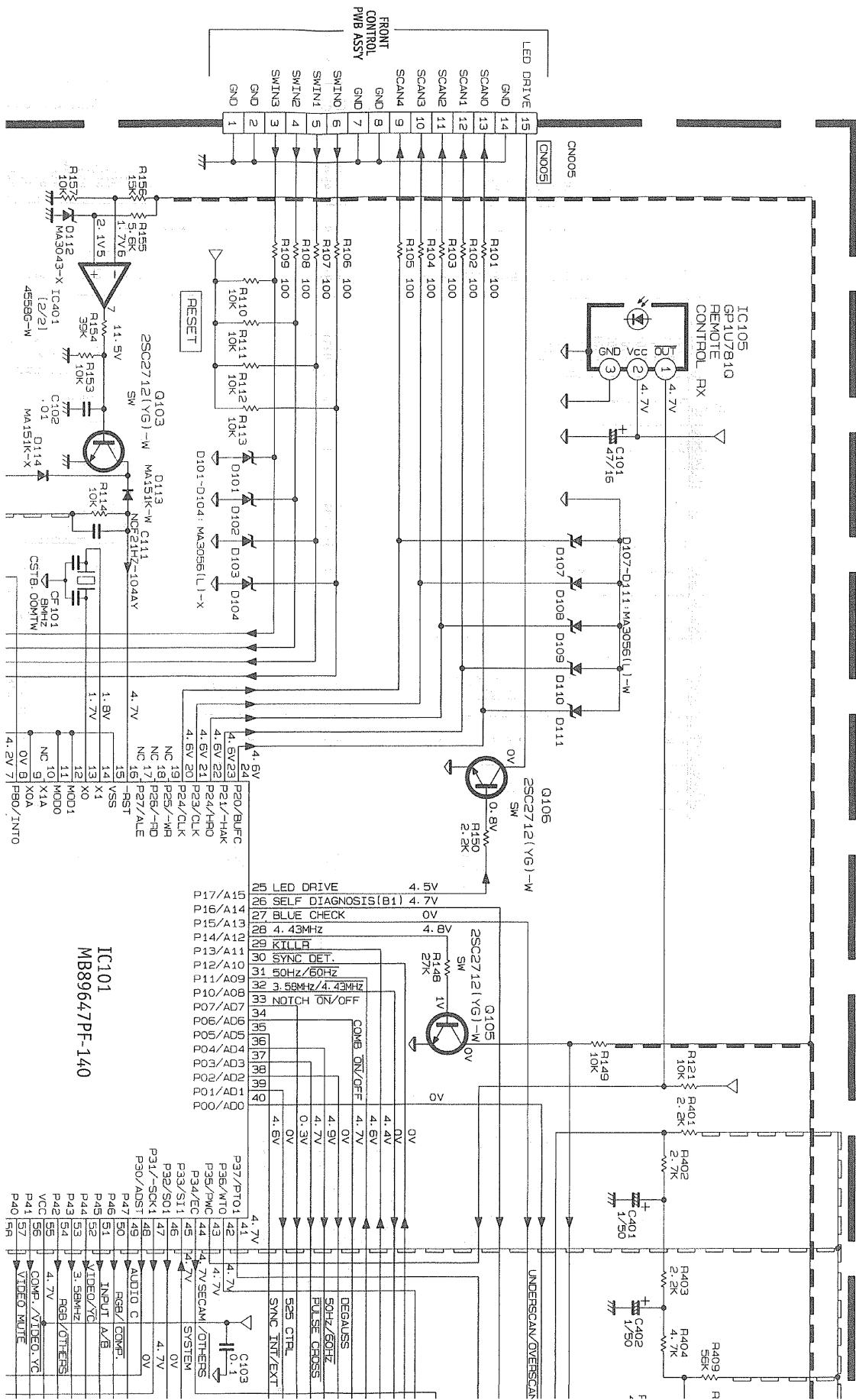
P2-21,22,23-b

P2-21,22,23-d

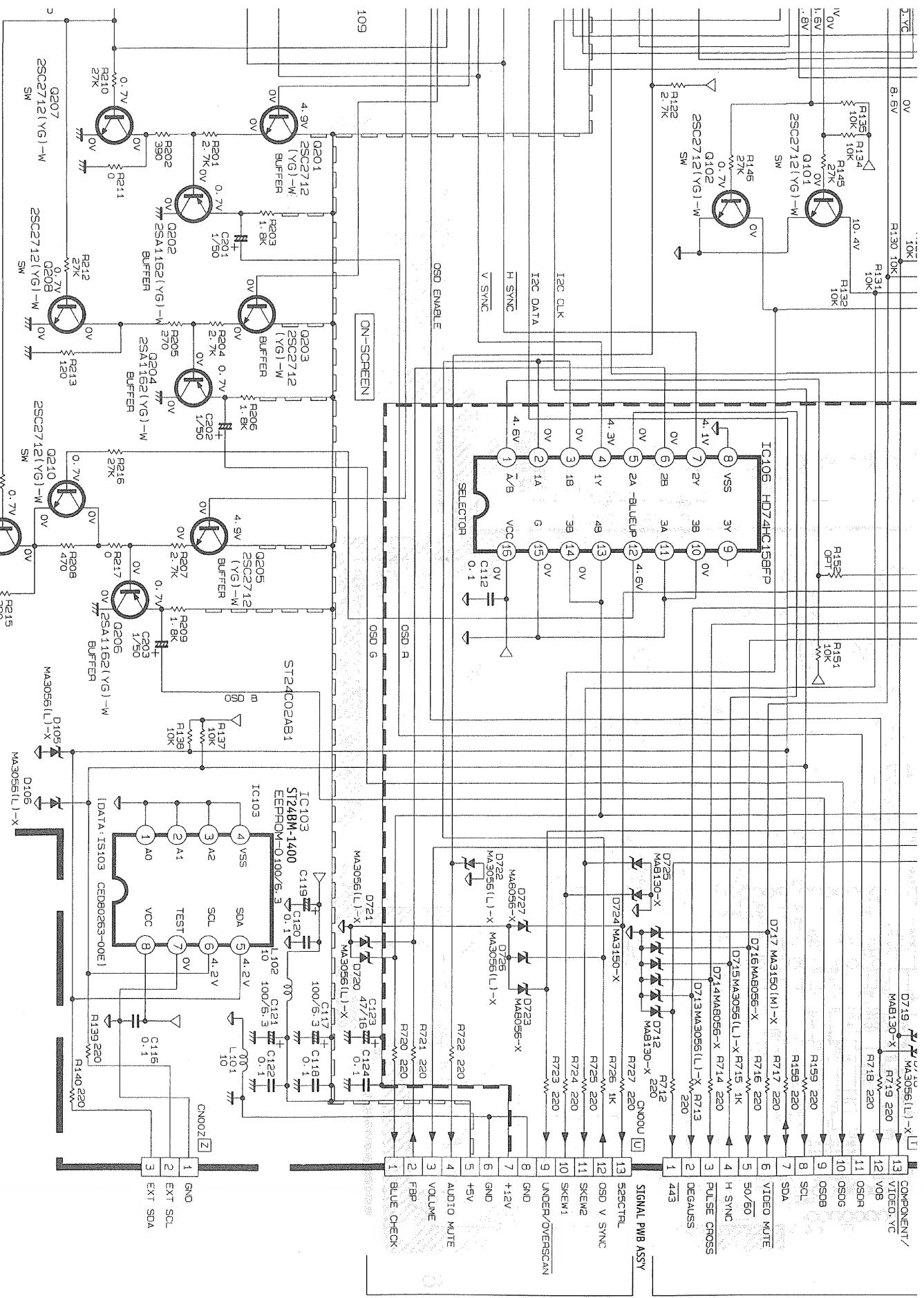


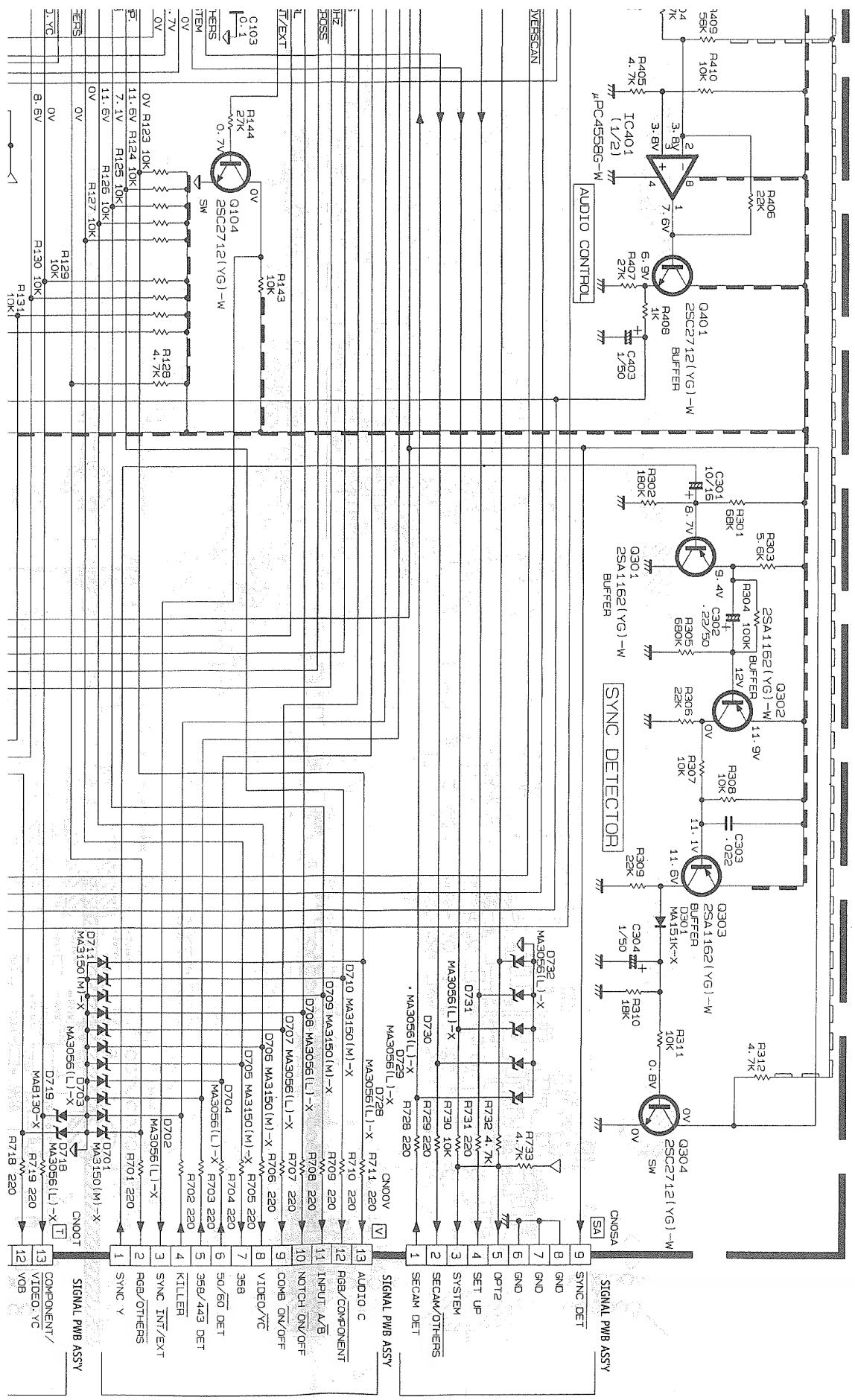
MICOM PWB CIRCUIT DIAGRAM

BM-1400PN-A BM-1400PN-A

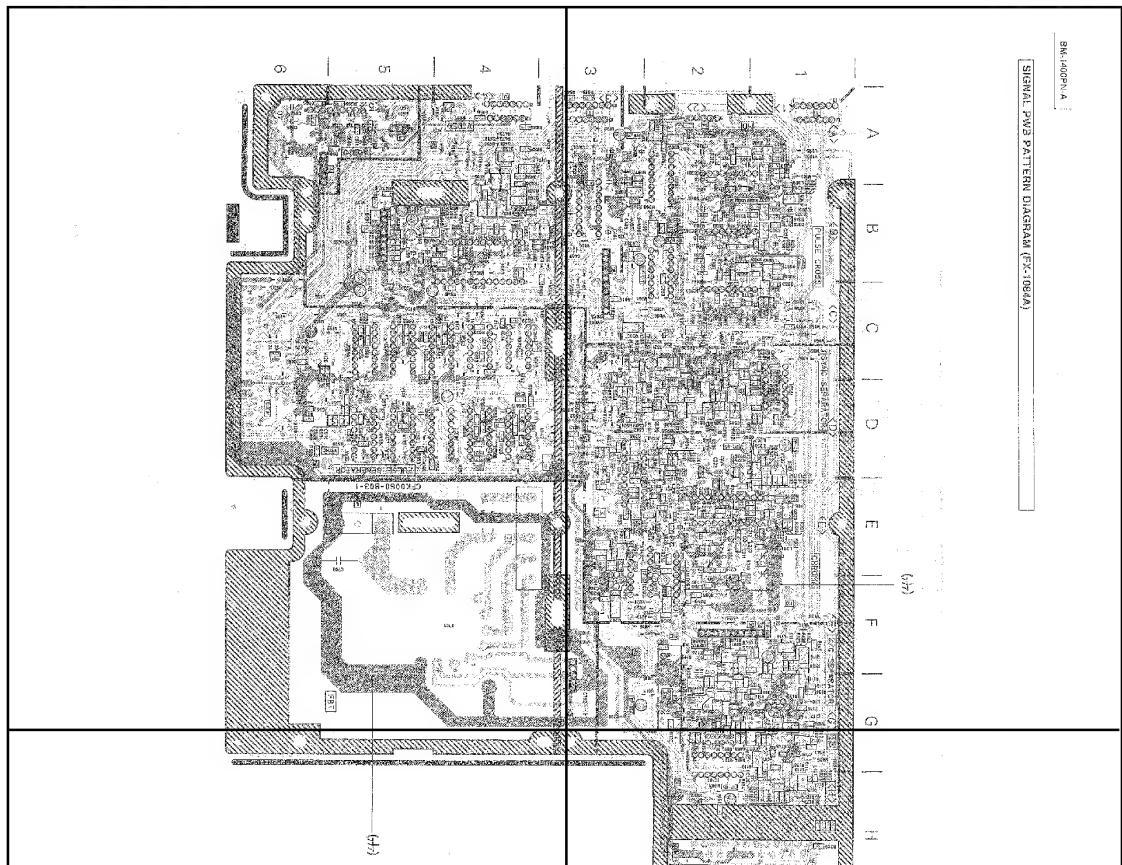


X-5018A

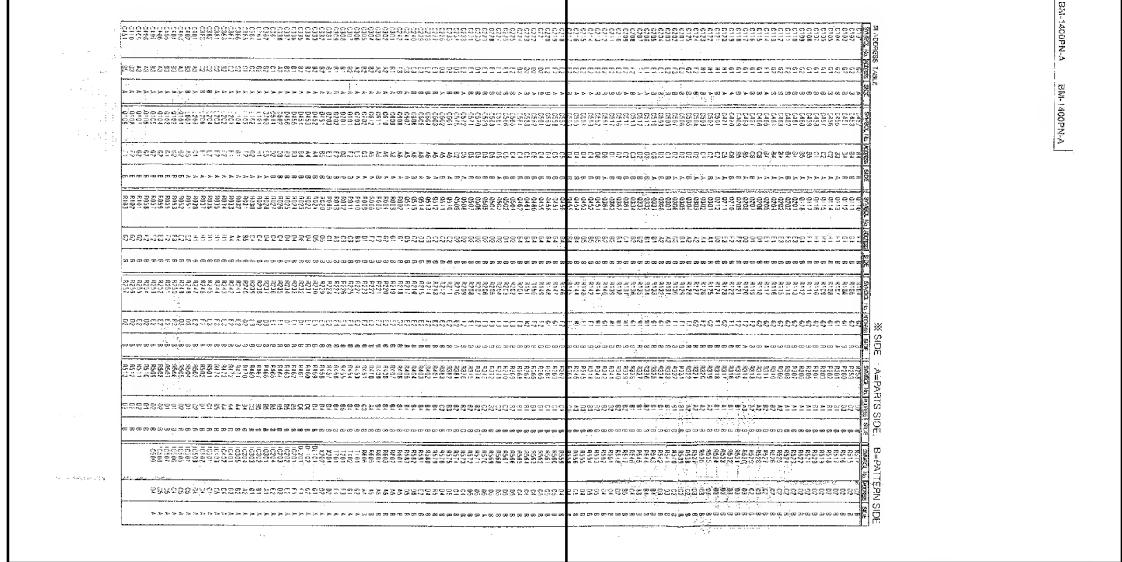




P2-24,25,26-a

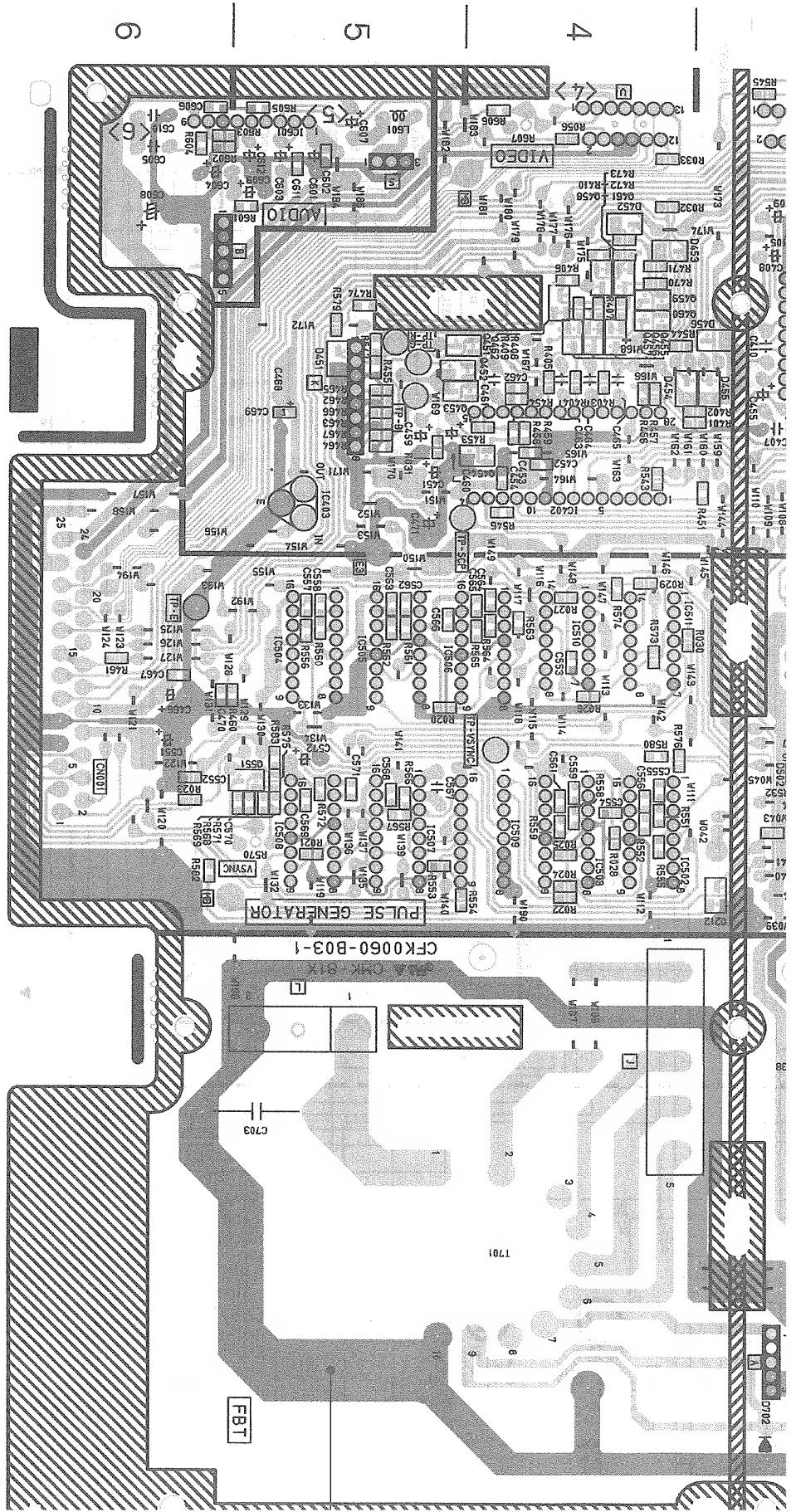


P2-24,25,26-b

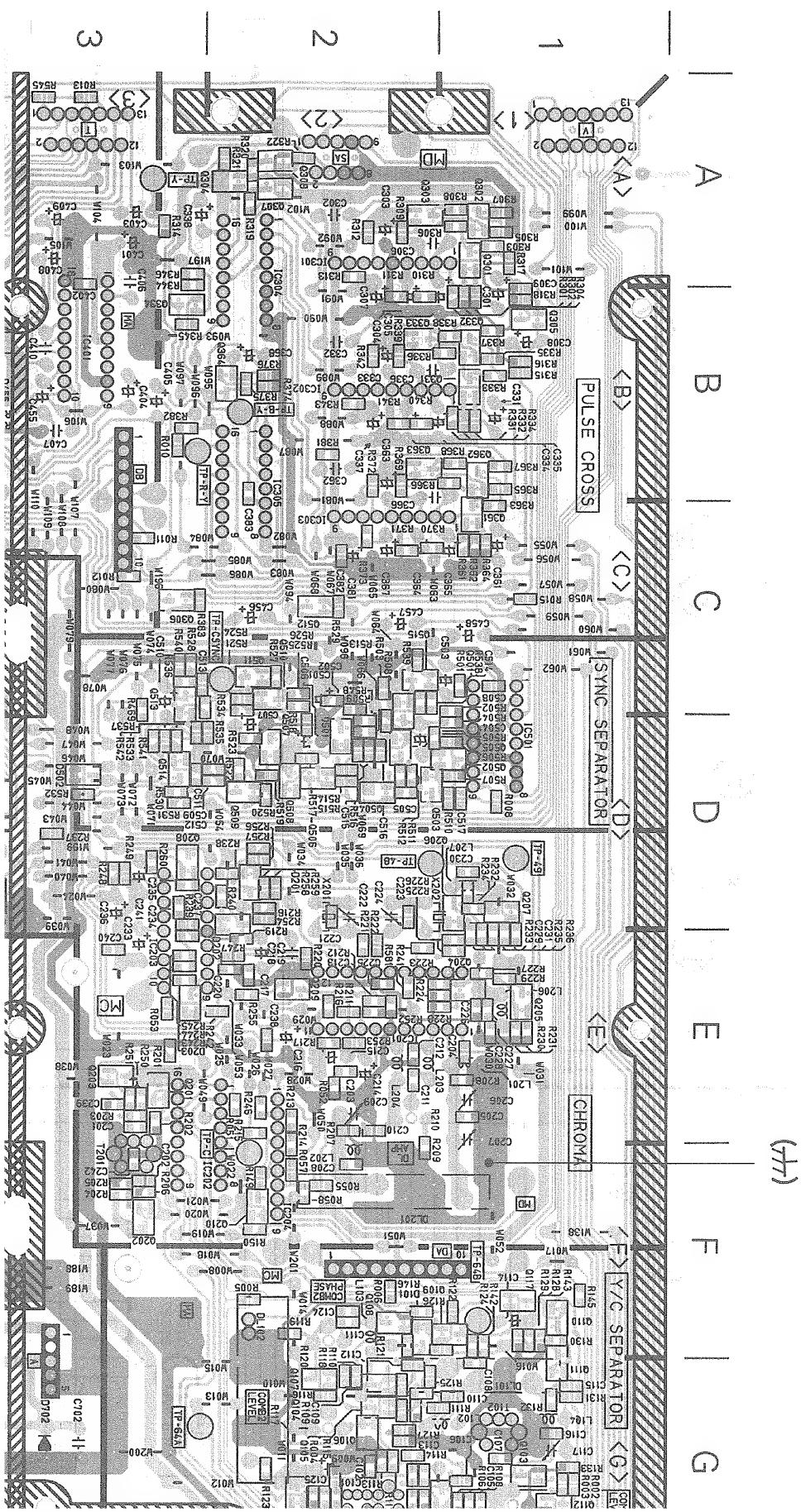


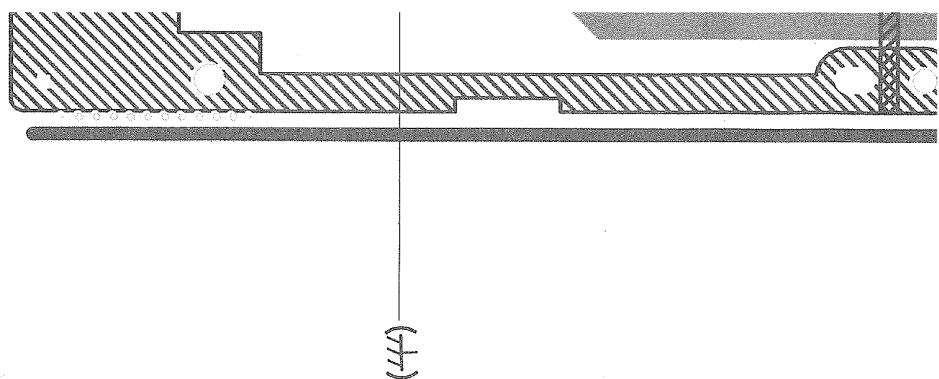
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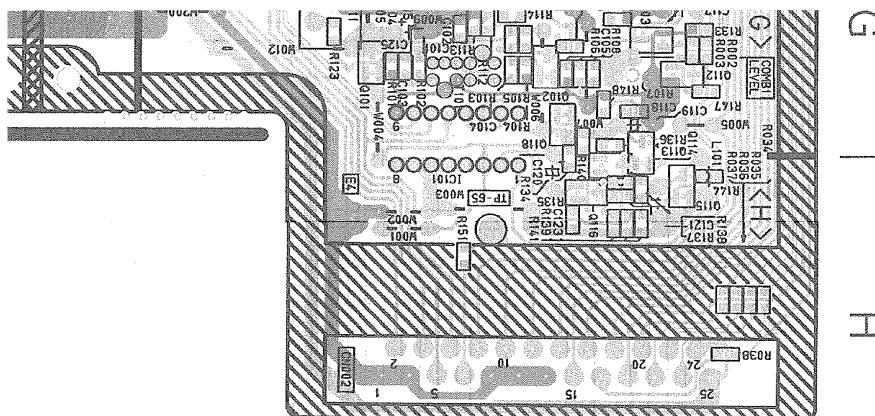
P2-24,25,26-d



SIGNAL PWB PATTERN DIAGRAM (FX-1084A)





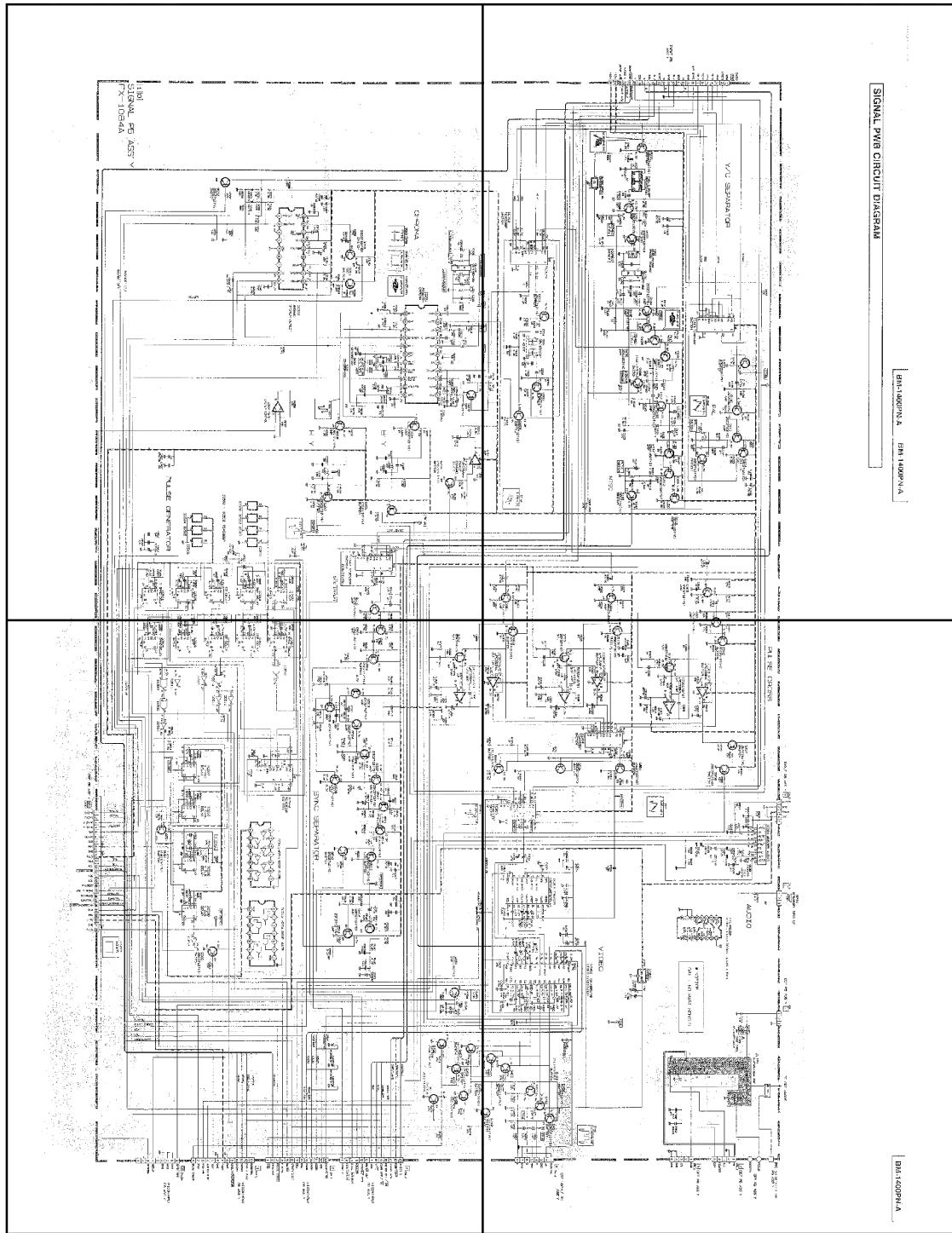


■ ADDRESS TABLE

Symbol No	Address	Side																
C101	07	A	C532	B4	B	U77	H1	B	R104	H2	B	R259	H2	D2	B	R514	H2	B
C102	07	B	C53	B4	B	0111	G1	B	R05	G2	B	R105	G1	C1	B	R515	G2	B
C103	07	B	C54	B4	B	0112	G1	B	R06	G1	B	R106	G1	C1	B	R516	G2	B
C104	07	B	C55	B4	B	0113	H1	B	R07	H1	B	R107	H1	A	B	R517	H2	B
C105	07	B	C56	B4	B	0114	H1	B	R08	G1	B	R108	G1	B	B	R518	G2	B
C106	07	B	C57	C2	A	0115	H1	B	R09	G2	B	R109	G2	B	B	R519	G2	B
C107	07	B	C58	C1	A	0116	H1	B	R10	G2	B	R110	G2	B	B	R520	G2	B
C108	07	B	C59	B5	A	0117	F1	B	R11	G1	B	R111	G2	B	B	R521	G2	B
C109	07	B	C60	B5	A	0118	G1	B	R12	G2	B	R112	G2	B	B	R522	G2	B
C110	07	B	C61	B4	A	0119	F3	B	R13	G2	B	R113	G2	B	B	R523	G2	B
C111	07	B	C62	B4	A	0202	F3	B	R14	G2	B	R114	G2	B	B	R524	G2	B
C112	07	B	C63	B4	A	0203	F3	B	R15	G2	B	R115	G2	B	B	R525	G2	B
C113	07	B	C64	B4	A	0204	E1	B	R16	G2	B	R116	G2	B	B	R526	G2	B
C114	07	B	C65	B4	A	0205	E1	B	R17	G2	B	R117	G2	B	B	R527	G2	B
C115	07	B	C66	B6	A	0206	D1	B	R18	G2	B	R118	G2	B	B	R528	G3	B
C116	07	B	C67	B6	B	0207	D1	B	R19	F2	B	R119	F2	B	B	R529	F2	B
C117	07	B	C68	B5	B	0208	D3	B	R20	F2	A	R120	F2	A	B	R530	F2	B
C118	07	B	C69	B5	B	0209	E2	B	R21	F2	A	R121	F2	A	B	R531	F2	B
C119	07	B	C70	B6	B	0210	F2	B	R22	F1	B	R122	F1	B	B	R532	F2	B
C120	07	B	C71	B5	B	0211	E3	B	R23	F2	B	R123	F2	B	B	R533	F2	B
C121	07	B	C72	B5	B	0212	D3	B	R24	F1	B	R124	F1	B	B	R534	F3	B
C122	07	B	C73	B2	B	0201	A1	B	R25	F2	B	R125	F2	B	B	R535	F3	B
C123	07	B	C74	B2	B	0202	A1	B	R26	F2	B	R126	F2	B	B	R536	F3	B
C124	07	B	C75	B2	B	0203	A1	B	R27	F2	B	R127	F2	B	B	R537	F3	B
C125	07	B	C76	B2	B	0204	A2	B	R28	F1	B	R128	F1	B	B	R538	F3	B
C201	07	B	C506	B2	B	0005	B1	B	R29	F1	B	R129	F1	B	B	R539	F3	B
C202	07	B	C507	B3	B	0306	G3	B	R30	F1	B	R130	F1	B	B	R540	F3	B
C203	07	B	C508	B2	B	0007	A2	B	R31	F2	B	R131	F2	B	B	R541	F3	B
C204	07	B	C509	B2	B	0308	B1	B	R32	F2	B	R132	F2	B	B	R542	F3	B
C205	07	B	C510	B3	A	0311	B1	B	R33	F1	B	R133	F1	B	B	R543	F3	B
C206	07	B	C511	D3	B	0312	B1	B	R34	F1	B	R134	F1	B	B	R544	F3	B
C207	07	B	C512	B3	B	0313	B2	B	R35	F1	B	R135	F1	B	B	R545	F3	B
C208	07	B	C513	D2	B	0314	B3	B	R36	F1	B	R136	F1	B	B	R546	F4	B
C209	07	B	C514	C2	B	0315	C1	B	R37	H1	B	R137	H1	B	B	R547	B5	B
C210	07	B	C515	D2	B	0316	B1	B	R38	H1	B	R138	H1	B	B	R548	B5	B
C211	07	B	C516	D2	B	0317	B2	B	R39	H1	B	R139	H1	B	B	R549	B5	B
C212	07	B	C517	D1	B	0318	B3	B	R40	H1	B	R140	H1	B	B	R550	B5	B
C213	07	B	C518	D2	B	0319	B2	B	R41	H1	B	R141	H1	B	B	R551	B5	B
C214	07	B	C519	D2	B	0320	B3	B	R42	F1	B	R142	F1	B	B	R552	B5	B
C215	07	B	C520	D2	B	0321	B1	B	R43	F1	B	R143	F1	B	B	R553	B5	B
C216	07	B	C521	D2	B	0322	B2	B	R44	F1	B	R144	F1	B	B	R554	B5	B
C217	07	B	C522	D2	B	0323	B3	B	R45	F1	B	R145	F1	B	B	R555	B5	B
C218	07	B	C523	D2	B	0324	B1	B	R46	F1	B	R146	F1	B	B	R556	B5	B
C219	07	B	C524	D2	B	0325	B2	B	R47	F1	B	R147	F1	B	B	R557	B5	B
C220	07	B	C525	D2	B	0326	B3	B	R48	F1	B	R148	F1	B	B	R558	B5	B
C221	07	B	C526	D2	B	0327	B1	B	R49	F1	B	R149	F1	B	B	R559	B5	B
C222	07	B	C527	D2	B	0328	B2	B	R50	F1	B	R150	F1	B	B	R560	B5	B
C223	07	B	C528	D2	B	0329	B3	B	R51	F1	B	R151	F1	B	B	R561	B5	B
C224	07	B	C529	D2	B	0330	B1	B	R52	F1	B	R152	F1	B	B	R562	B5	B
C225	07	B	C530	D2	B	0331	B2	B	R53	F1	B	R153	F1	B	B	R563	B5	B
C226	07	B	C531	D2	B	0332	B3	B	R54	F1	B	R154	F1	B	B	R564	B5	B
C227	07	B	C532	D2	B	0333	B1	B	R55	F1	B	R155	F1	B	B	R565	B5	B
C228	07	B	C533	D2	B	0334	B2	B	R56	F1	B	R156	F1	B	B	R566	B5	B
C229	07	B	C534	D2	B	0335	B3	B	R57	F1	B	R157	F1	B	B	R567	B5	B
C230	07	B	C535	D2	B	0336	B1	B	R58	F1	B	R158	F1	B	B	R568	B5	B
C231	07	B	C536	D2	B	0337	B2	B	R59	F1	B	R159	F1	B	B	R569	B5	B
C232	07	B	C537	D2	B	0338	B3	B	R60	F1	B	R160	F1	B	B	R570	B5	B
C233	07	B	C538	D2	B	0339	B1	B	R61	F1	B	R161	F1	B	B	R571	B5	B
C234	07	B	C539	D2	B	0340	B2	B	R62	F1	B	R162	F1	B	B	R572	B5	B
C235	07	B	C540	D2	B	0341	B3	B	R63	F1	B	R163	F1	B	B	R573	B5	B
C236	07	B	C541	D2	B	0342	B1	B	R64	F1	B	R164	F1	B	B	R574	B5	B
C237	07	B	C542	D2	B	0343	B2	B	R65	F1	B	R165	F1	B	B	R575	B5	B
C238	07	B	C543	D2	B	0344	B3	B	R66	F1	B	R166	F1	B	B	R576	B5	B
C239	07	B	C544	D2	B	0345	B1	B	R67	F1	B	R167	F1	B	B	R577	B5	B
C240	07	B	C545	D2	B	0346	B2	B	R68	F1	B	R168	F1	B	B	R578	B5	B
C241	07	B	C546	D2	B	0347	B3	B	R69	F1	B	R169	F1	B	B	R579	B5	B
C242	07	B	C547	D2	B	0348	B1	B	R70	F1	B	R170	F1	B	B	R580	B5	B
C243	07	B	C548	D2	B	0349	B2	B	R71	F1	B	R171	F1	B	B	R581	B5	B
C244	07	B	C549	D2	B	0350	B3	B	R72	F1	B	R172	F1	B	B	R582	B5	B
C245	07	B	C550	D2	B	0351	B1	B	R73	F1	B	R173	F1	B	B	R583	B5	B
C246	07	B	C551	D2	B	0352	B2	B	R74	F1	B	R174	F1	B	B	R584	B5	B
C247	07	B	C552	D2	B	0353	B3	B	R75	F1	B	R175	F1	B	B	R585	B5	B
C248	07	B	C553	D2	B	0354	B1	B	R76	F1	B	R176	F1	B	B	R586	B5	B
C249	07	B	C554	D2	B	0355	B2	B	R77	F1	B	R177	F1	B	B	R587	B5	B
C250	07	B	C555	D2	B	0356	B3	B	R78	F1	B	R178	F1	B	B	R588	B5	B
C251	07	B	C556	D2	B	0357	B1	B	R79	F1	B	R179	F1	B	B	R589	B5	B
C252	07	B	C557	D2	B	0358	B2	B	R80	F1	B	R180	F1	B	B	R590	B5	B
C253	07	B	C558	D2	B	0359	B3	B	R81	F1	B	R181	F1	B	B	R591	B5	B
C254	07	B	C559	D2	B	0360	B1	B	R82	F1	B	R182	F1	B	B	R592	B5	B
C255	07	B	C560	D2	B	0361	B2	B	R83	F1	B	R183	F1	B	B	R593	B5	B
C256	07	B	C561	D2	B	0362	B3	B	R84	F1	B	R184	F1	B	B	R594	B5	B
C257	07	B	C562	D2	B	0363	B1	B	R85	F1	B	R185	F1	B	B	R595	B5	B
C258	07	B	C563	D2	B	0364	B2	B	R86	F1	B	R186	F1	B	B	R596	B5	B
C259	07	B	C564	D2	B	0365	B3	B	R87	F1	B	R187	F1	B	B	R597	B5	B
C260	07	B	C565	D2	B	0366	B1	B	R88	F1	B	R188	F1	B	B	R598	B5	B
C261	07	B	C566	D2	B	0367	B2	B	R89	F1	B	R189	F1	B	B	R599	B5	B
C262	07	B	C567	D2	B	0368	B3	B	R90	F1	B	R190	F1	B	B	R600	B5	B
C263	07	B	C568	D2	B	0369	B1	B	R91	F1	B	R191	F1	B	B	R601	B5	B
C264	07	B	C569	D2	B	0370	B2	B	R92	F1	B	R192	F1	B	B	R602	B5	B
C265	07	B	C570	D2	B	0371	B3	B	R93	F1	B	R193	F1	B	B	R603	B5	B
C266	07	B	C571	D2	B	0372	B1	B	R94	F1	B	R194	F1	B	B	R604	B5	B
C267	07	B	C572	D2	B	0373	B2	B	R95	F1	B	R195	F1	B	B	R605	B5	B
C268	07	B	C573	D2	B	0374	B3	B	R96	F1	B	R196	F1	B	B	R606	B5	B
C269	07	B	C574	D2	B	0375	B1	B	R97	F1	B	R197	F1	B	B	R607	B5	B
C270	07	B	C575	D2	B	0376	B2	B	R98	F1	B	R198	F1	B	B	R608	B5	B
C271	07	B	C576	D2	B	0377	B3	B	R99	F1	B	R199	F1	B	B	R609	B5	B
C272	07	B	C577	D2</td														

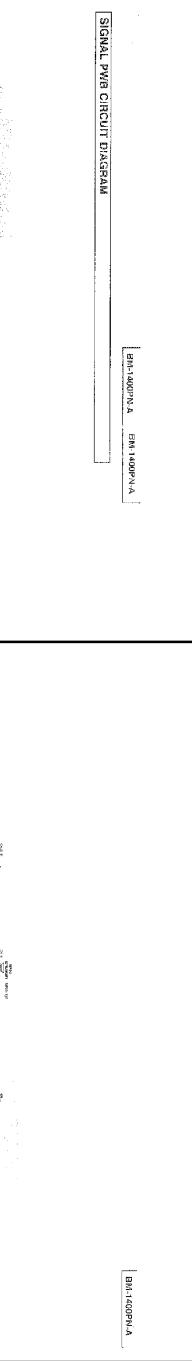
* SIDE : A=PART SIDE, B=PATTERN SIDE

P2-27,28,29-a

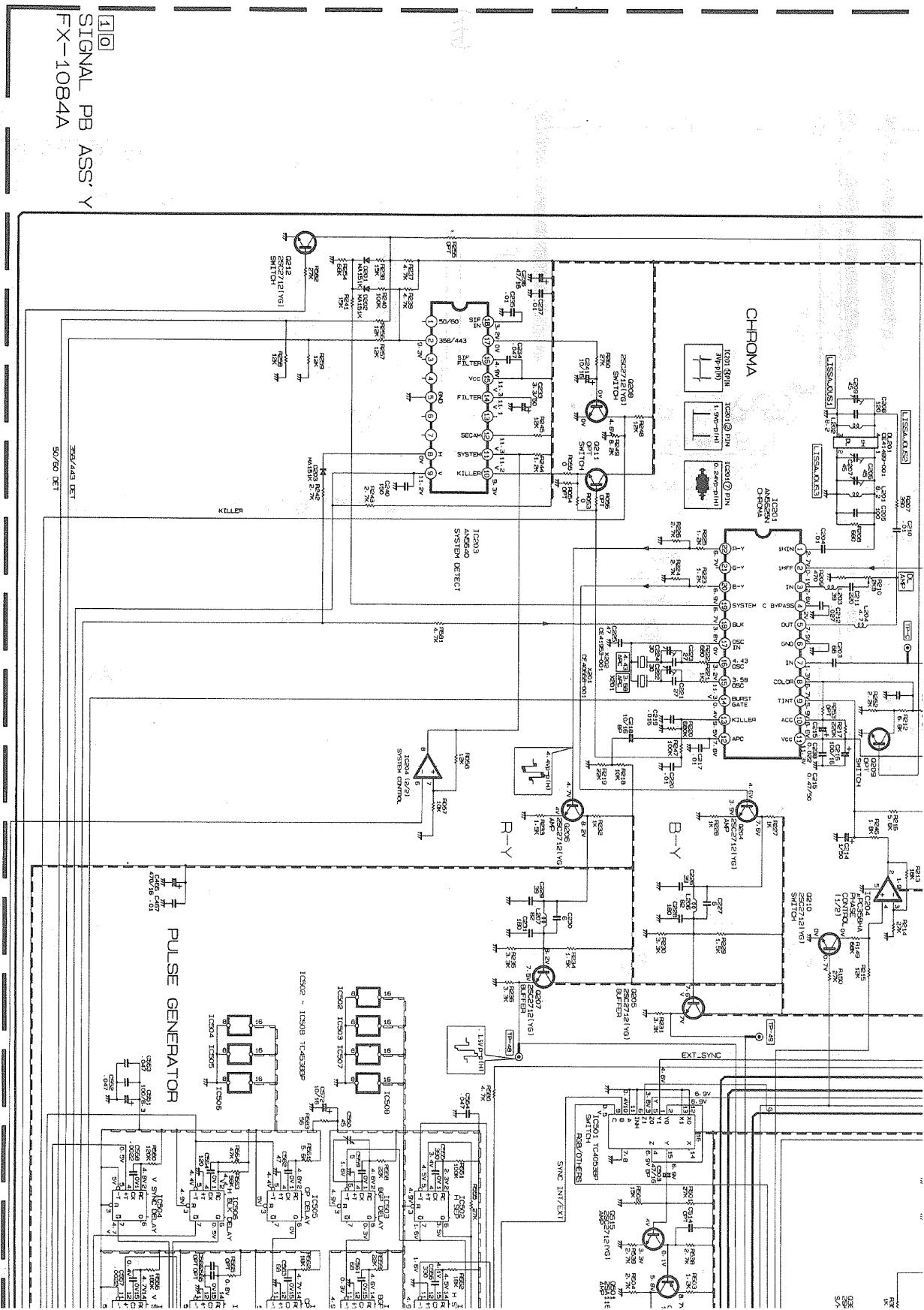


P2-27,28,29-c

P2-27,28,29-b

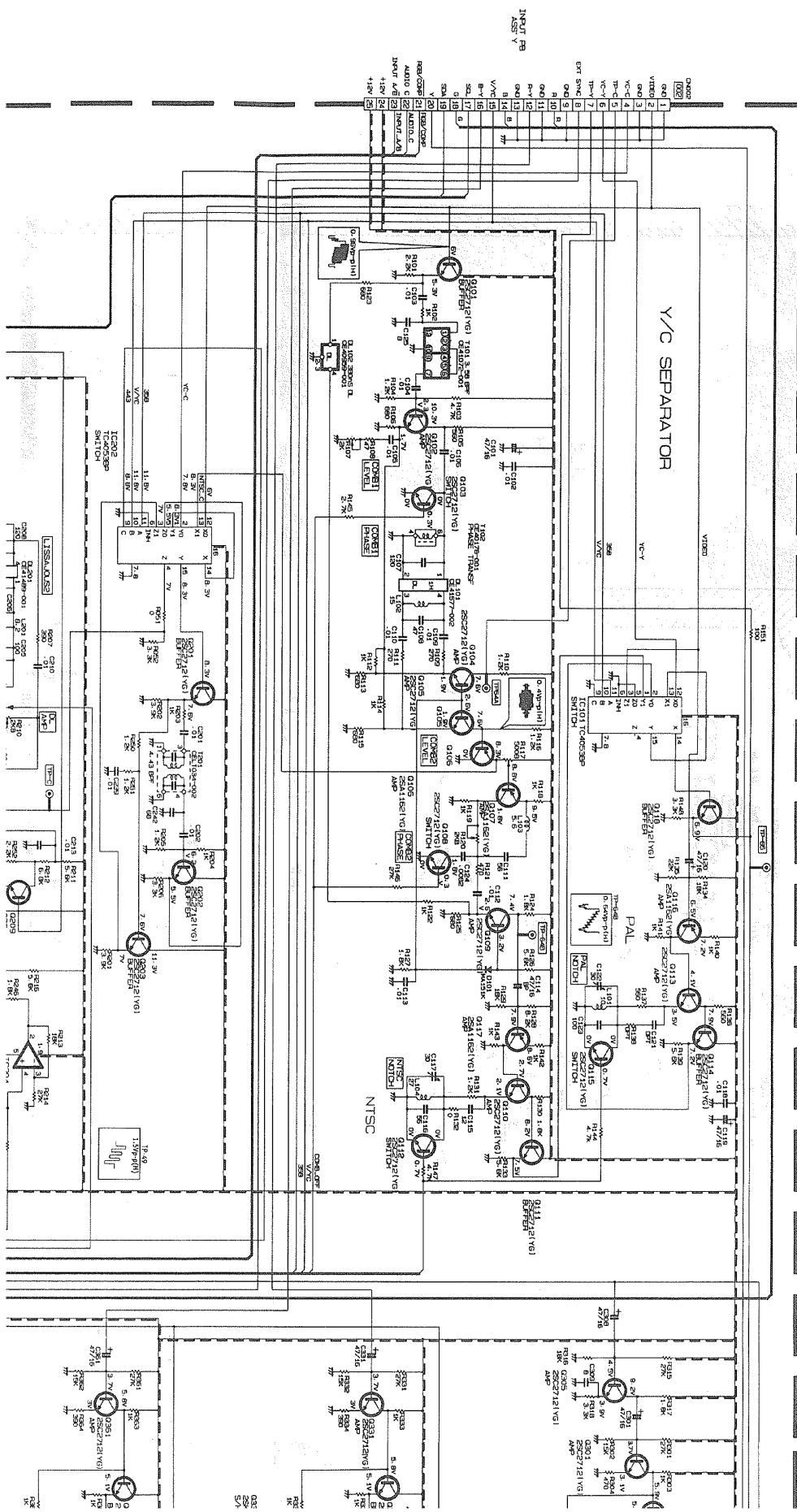


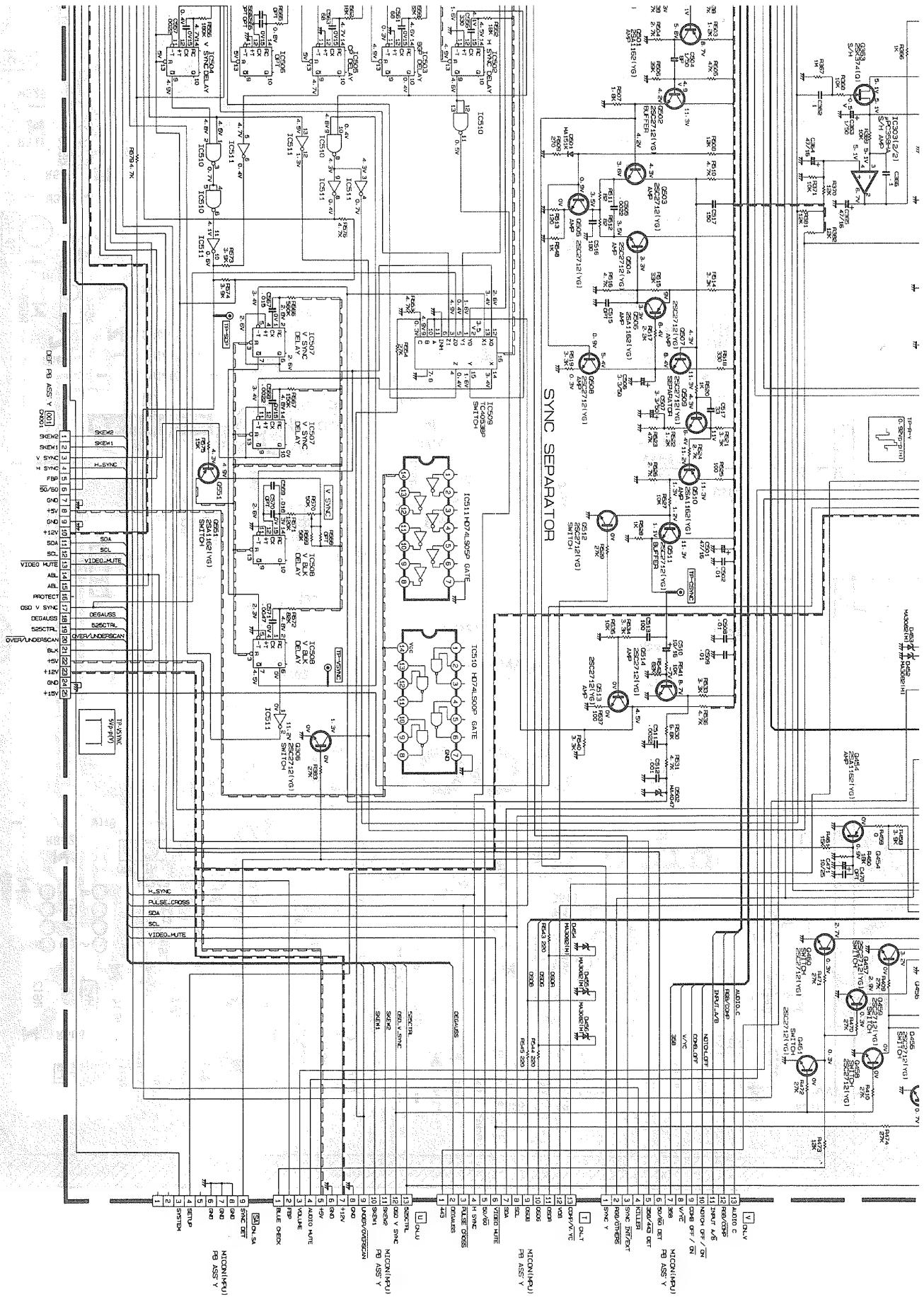
P2-27,28,29-d

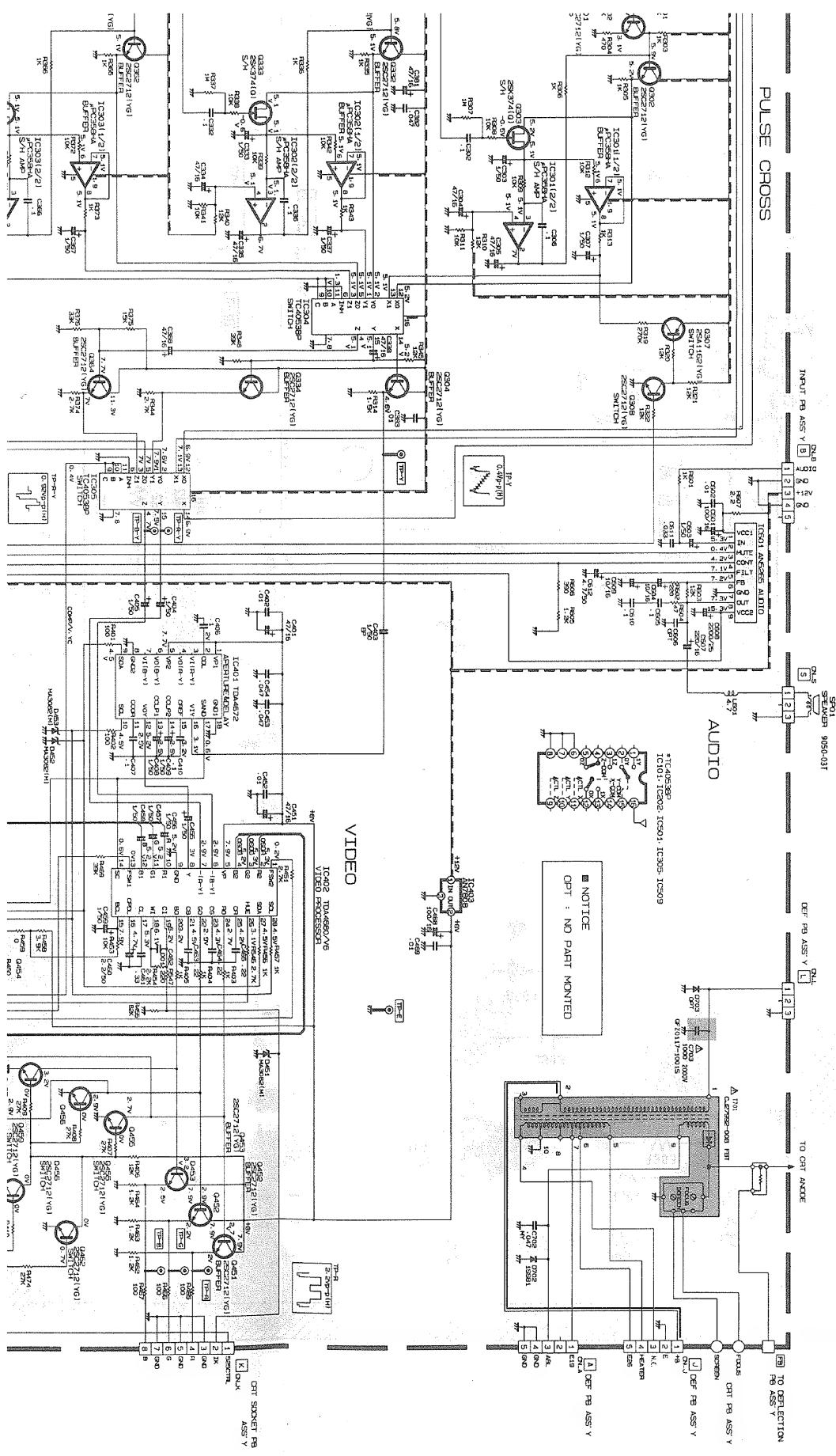


SIGNAL PWB CIRCUIT DIAGRAM

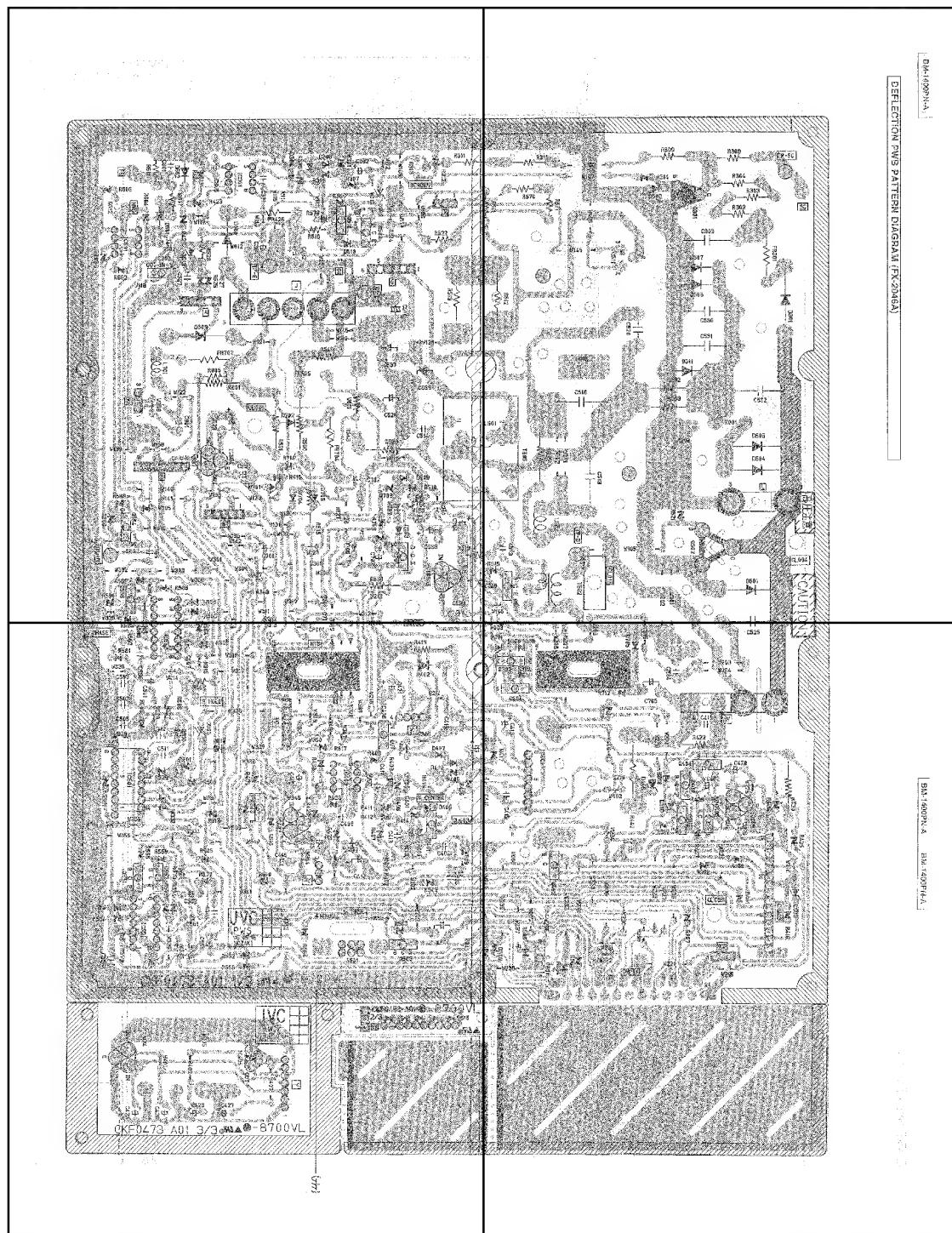
BM-1400PN-A BM-1400PN-A







P2-30,31,32-a

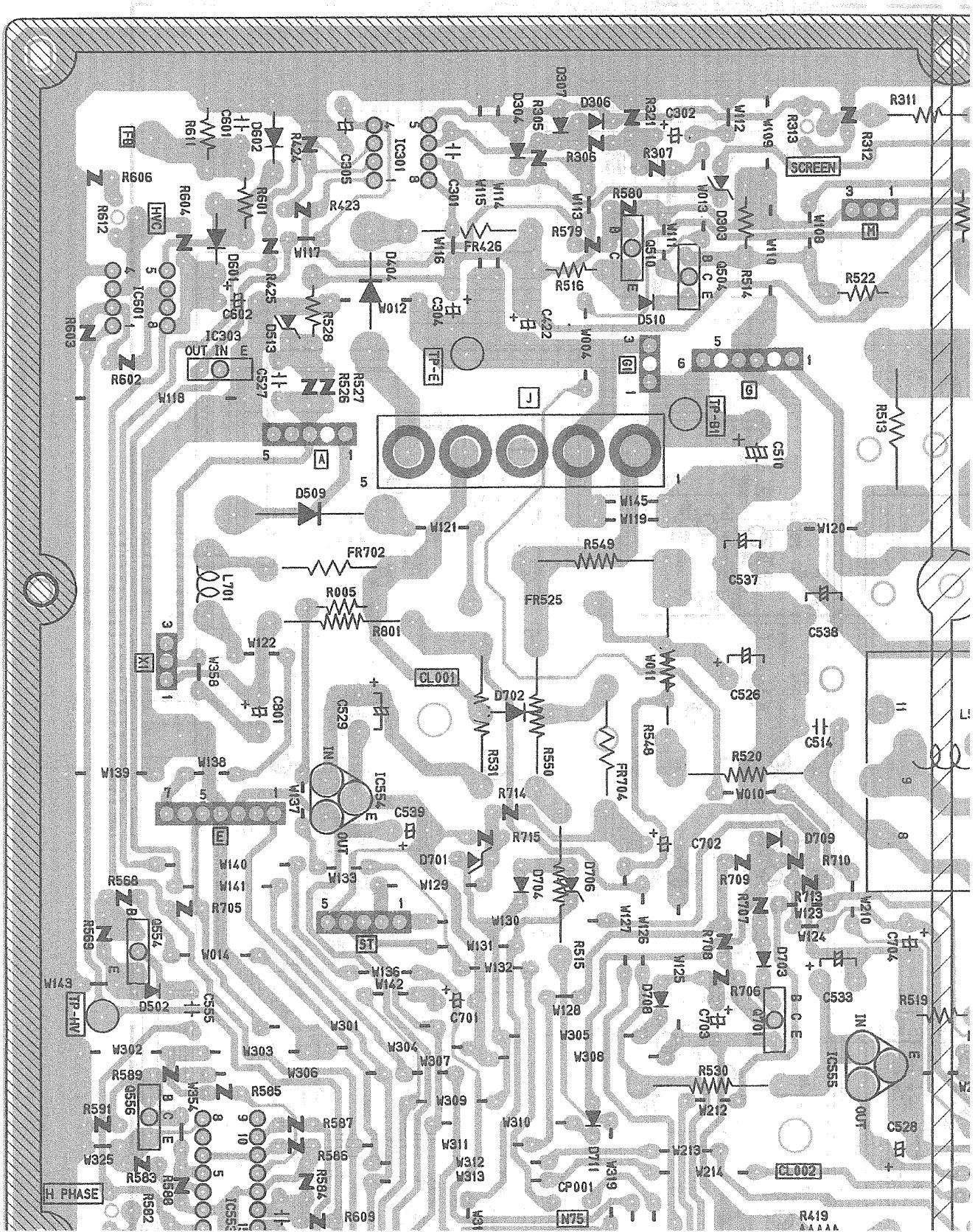


P2-30,31,32-b

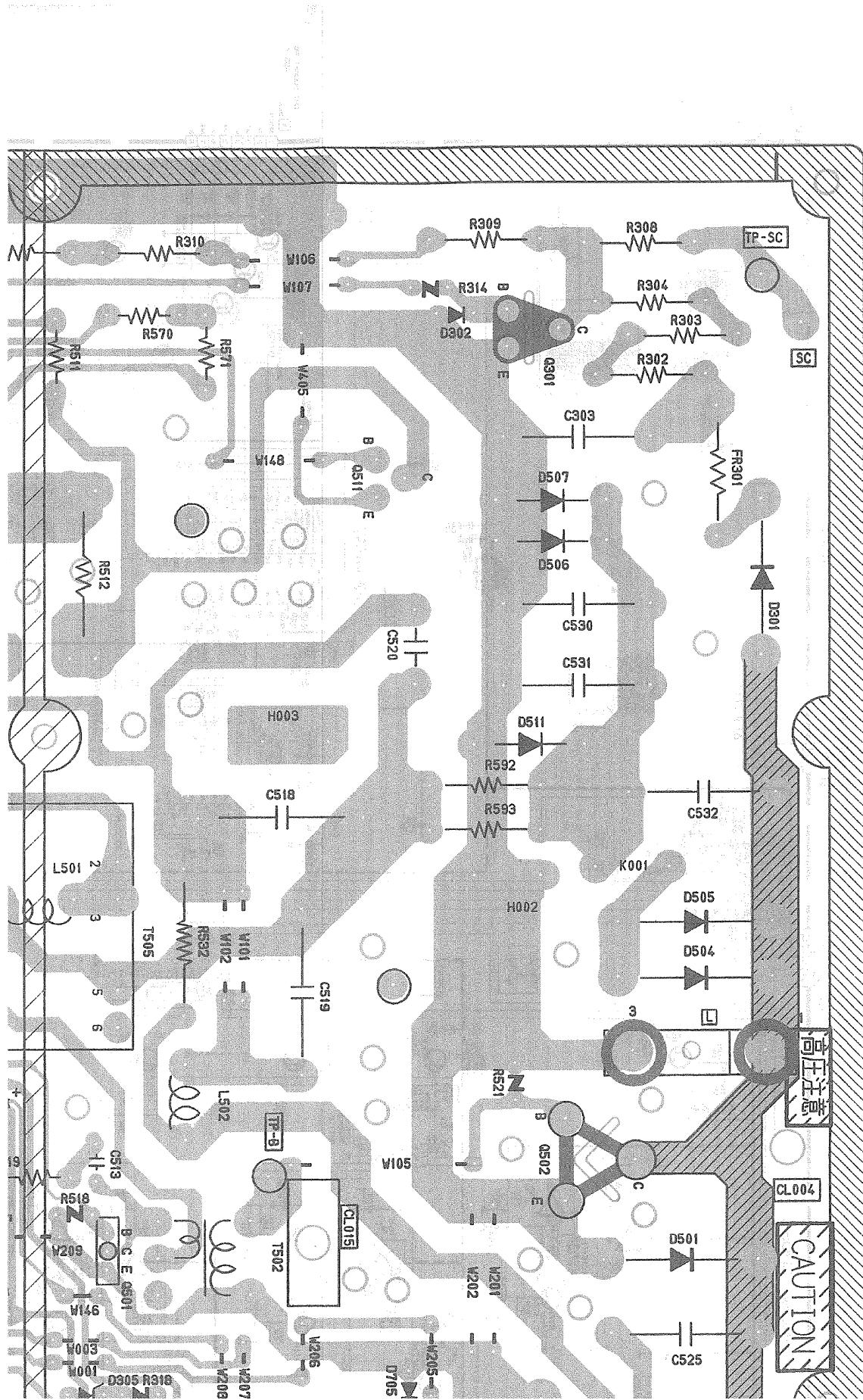
BM-1400PLA BM-1400PA
DEFLECTION PINS PATTERN DIAGRAM (FX-2048A)

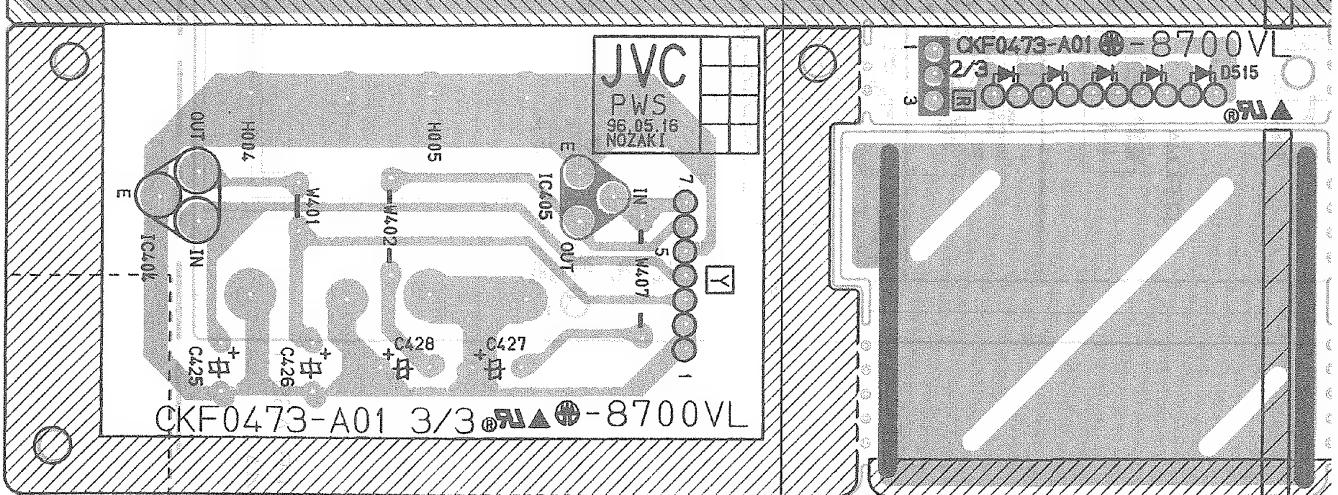
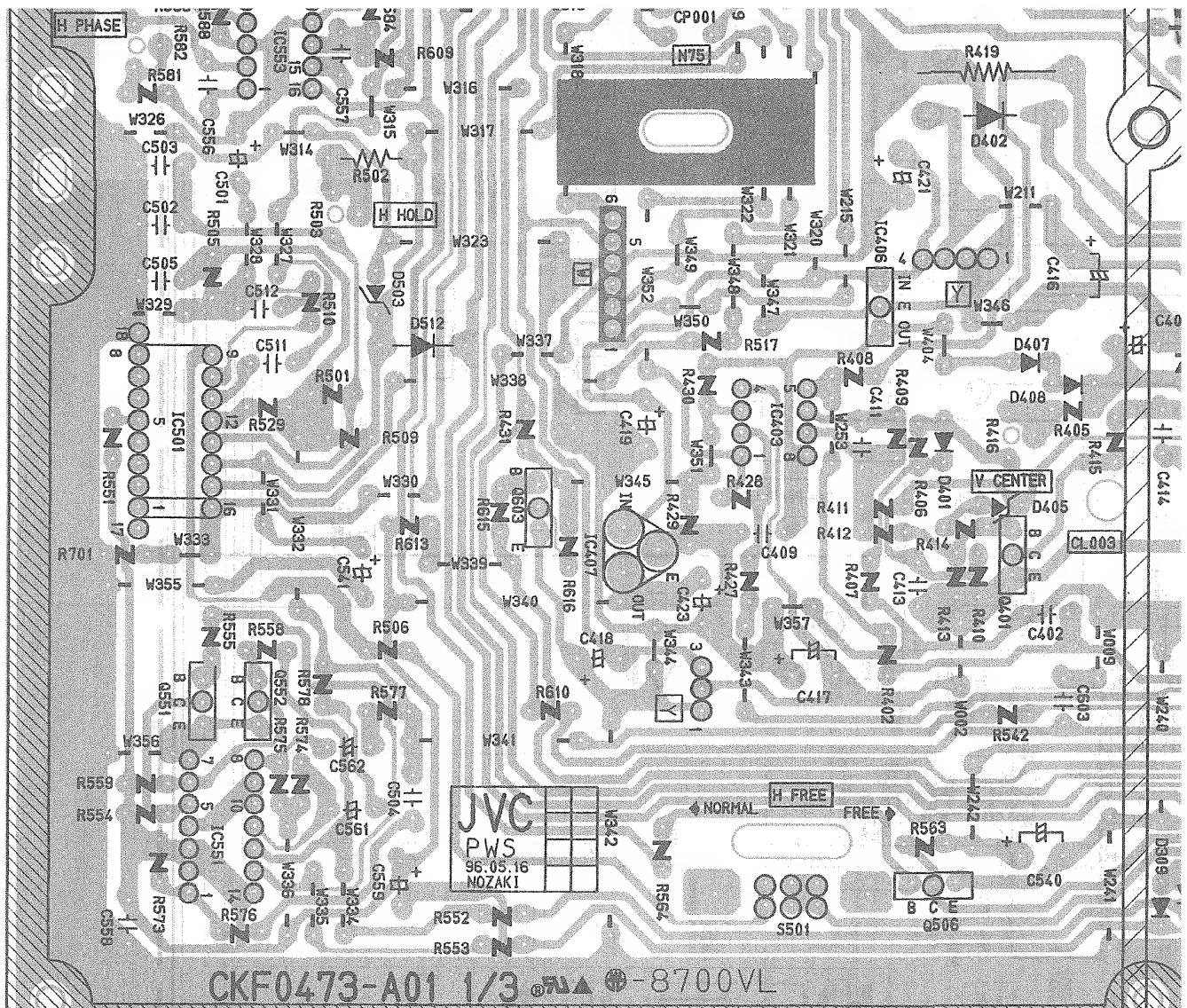
P2-30,31,32-c

P2-30,31,32-d



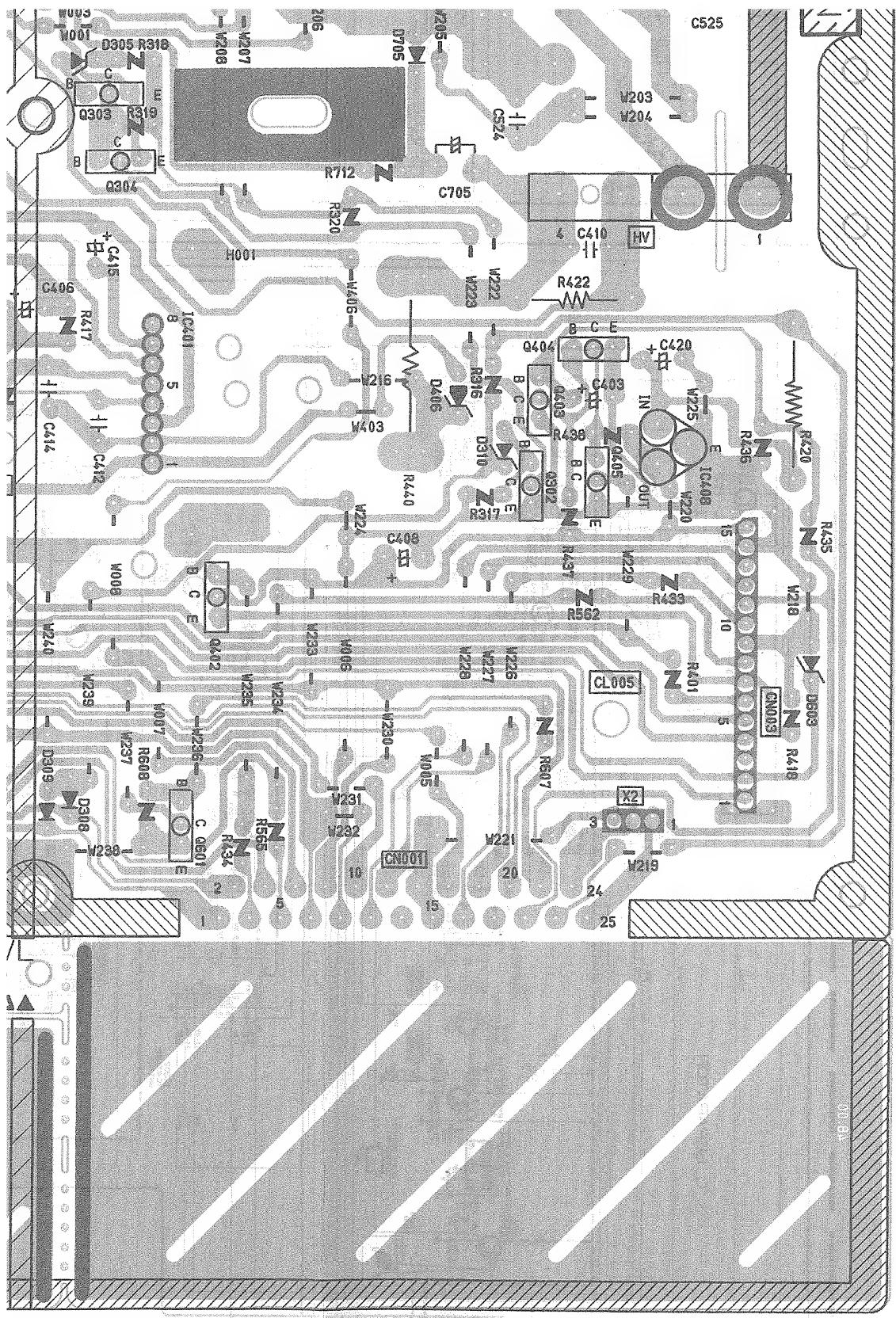
DEFLECTION PWB PATTERN DIAGRAM (FX-2046A)



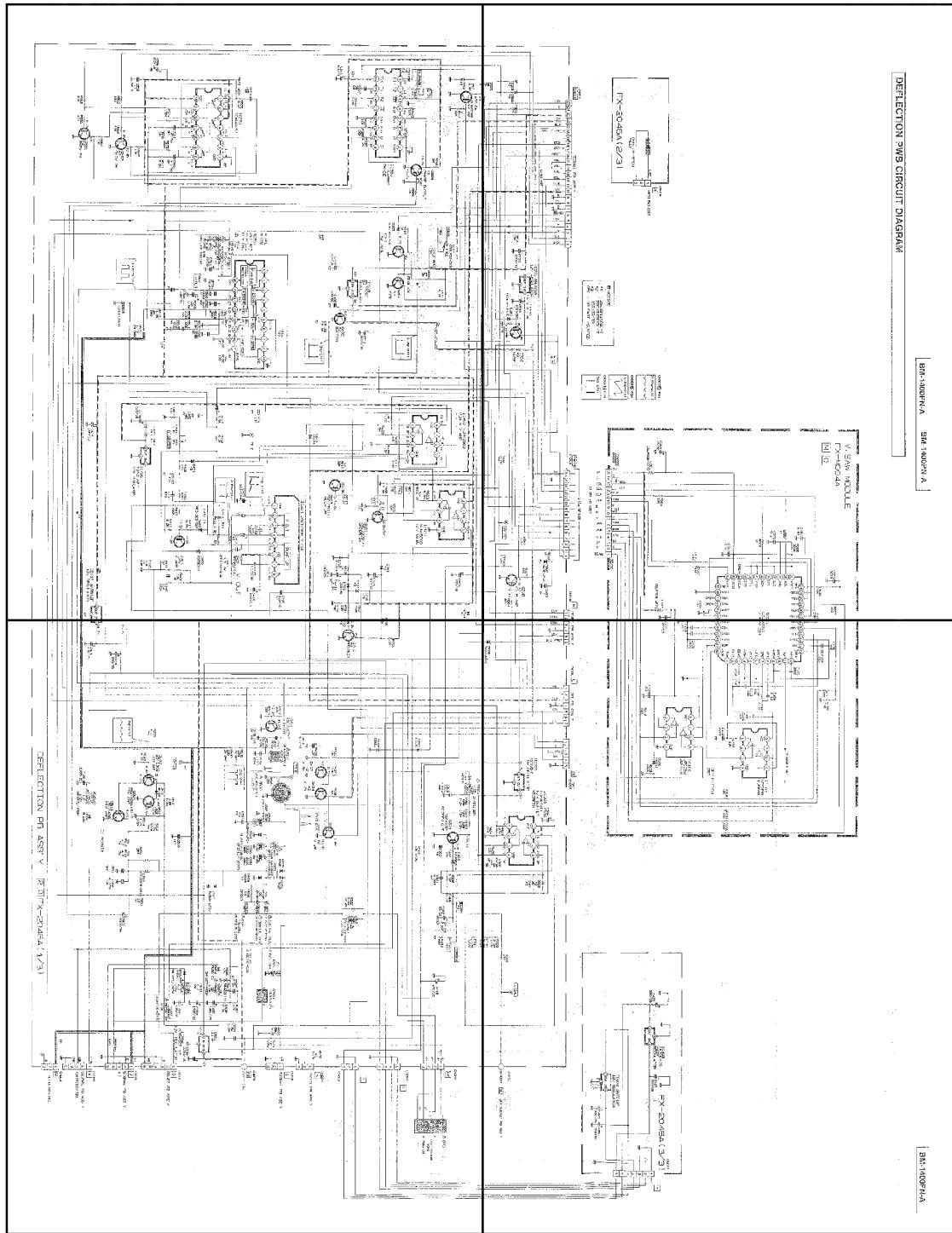


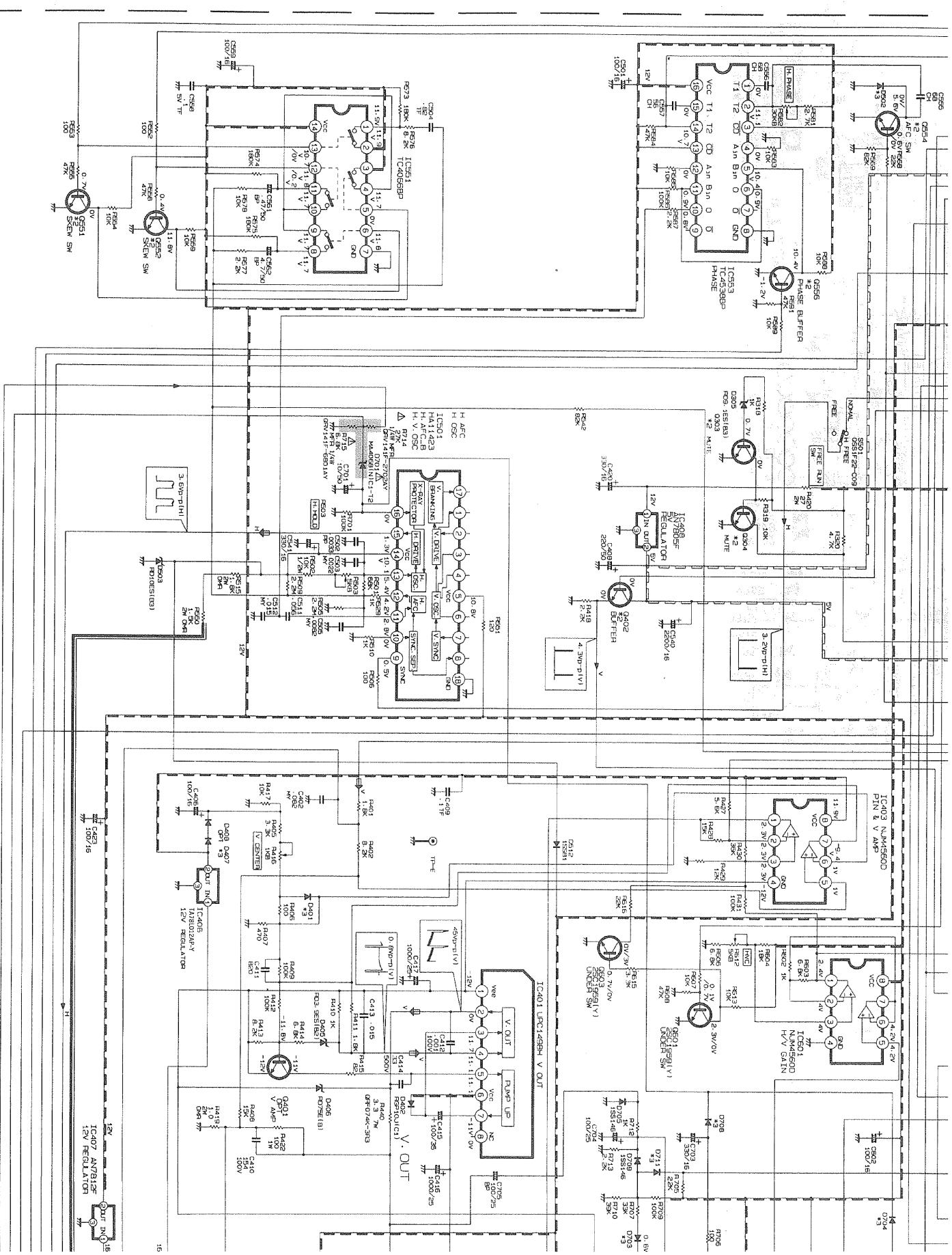
(44)

BM-1400PN-A BM-1400PN-A

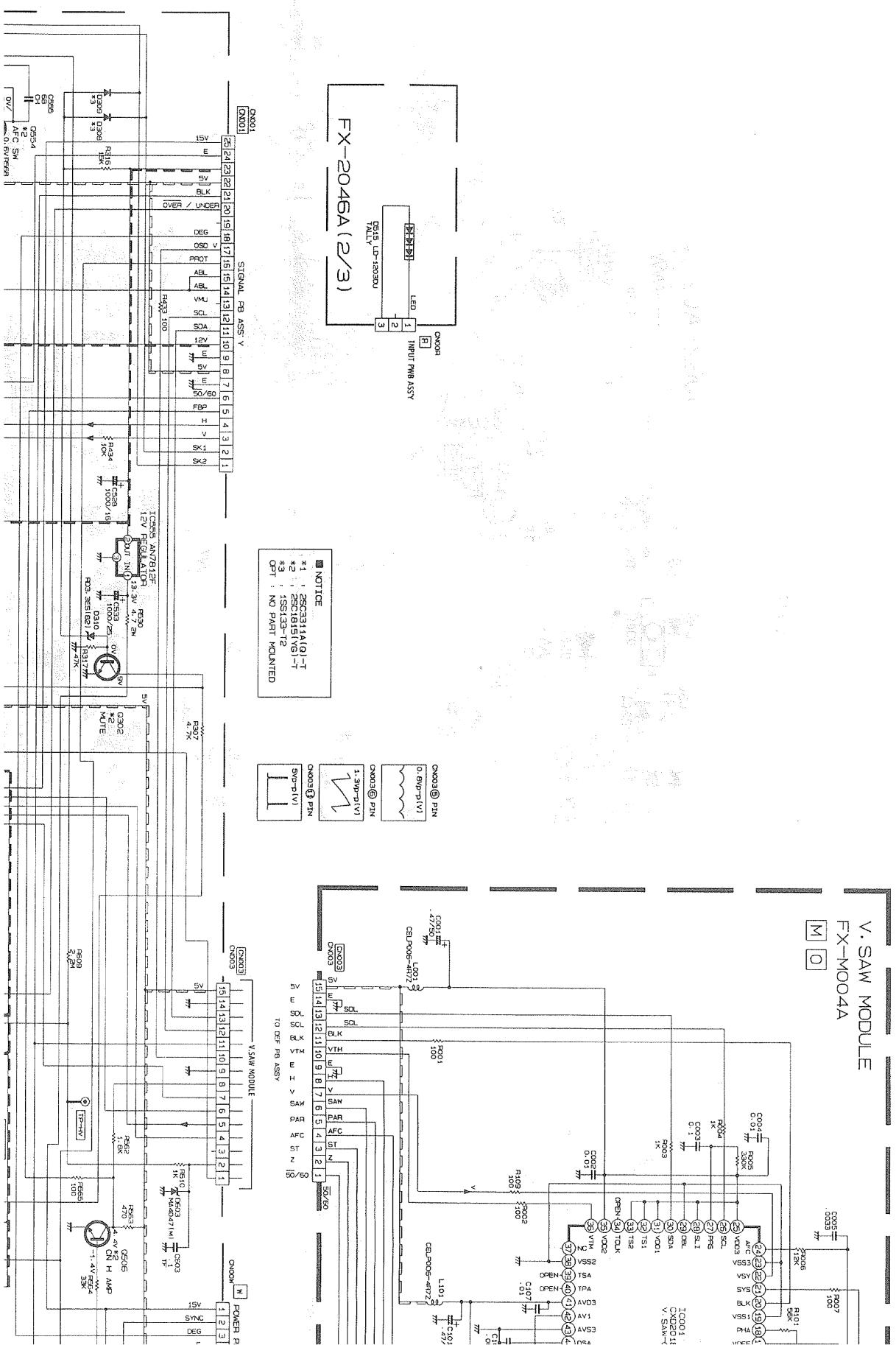


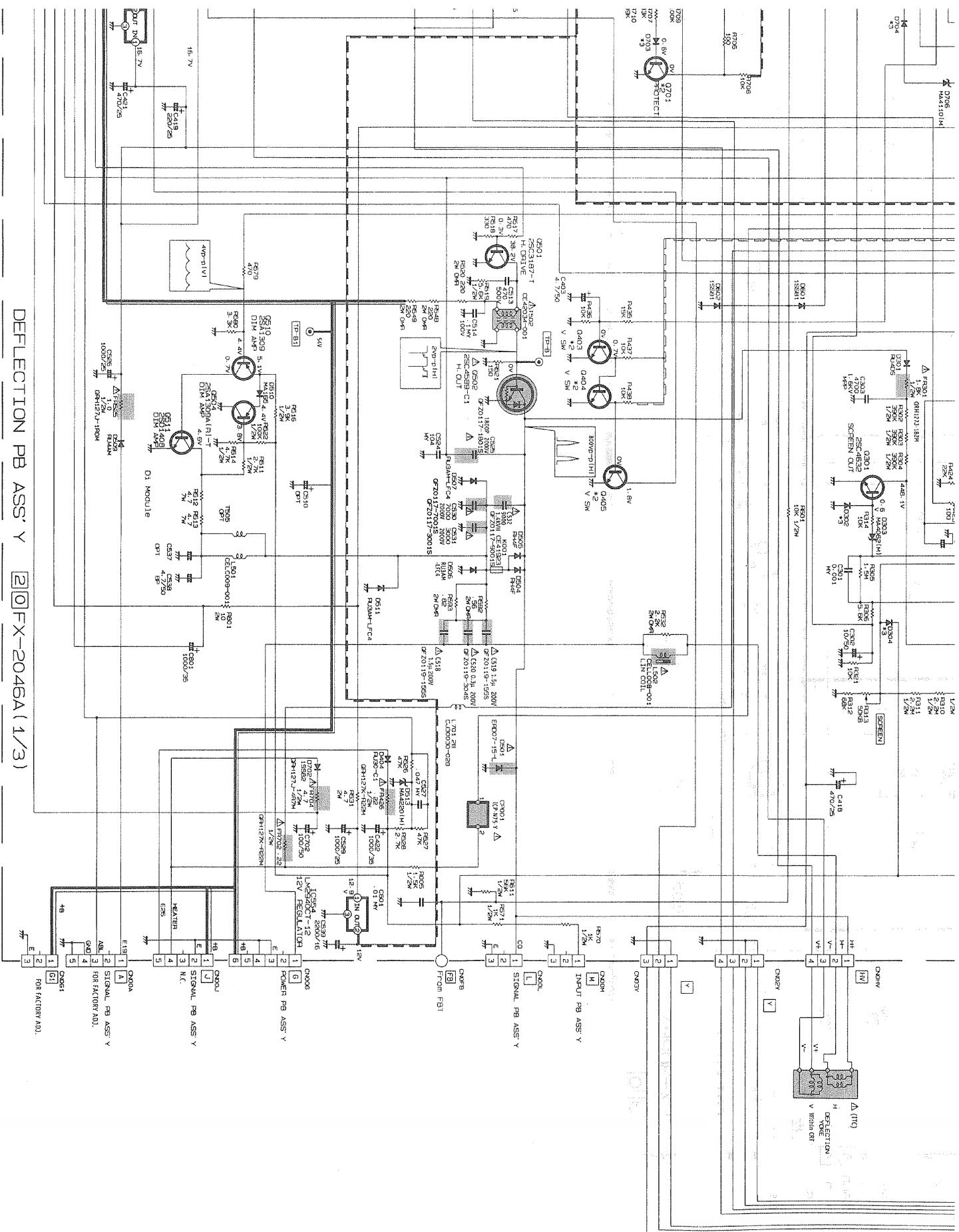
P2-33,34,35-a

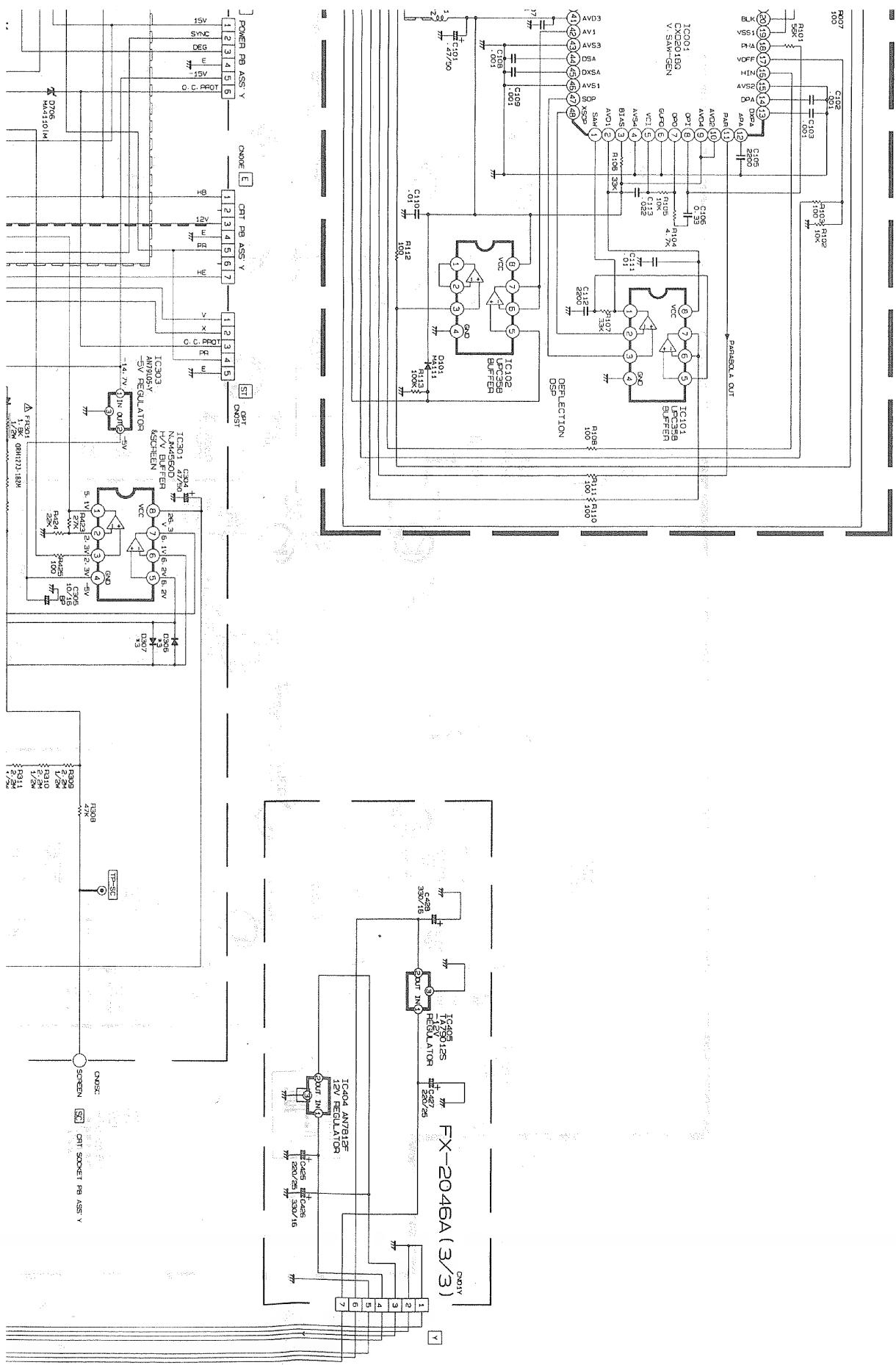




DEFLECTION PWB CIRCUIT DIAGRAM



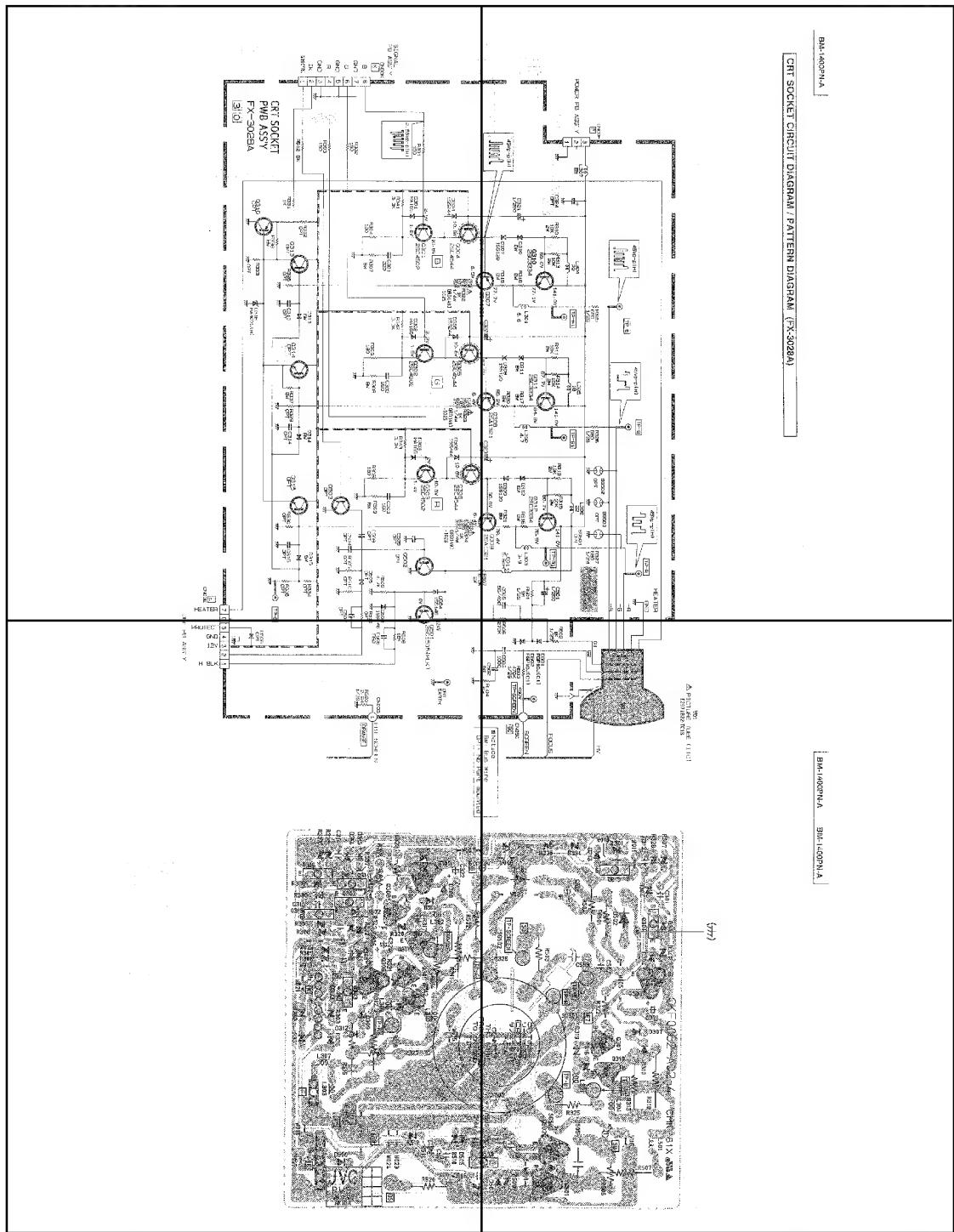




BM-1400PN-A

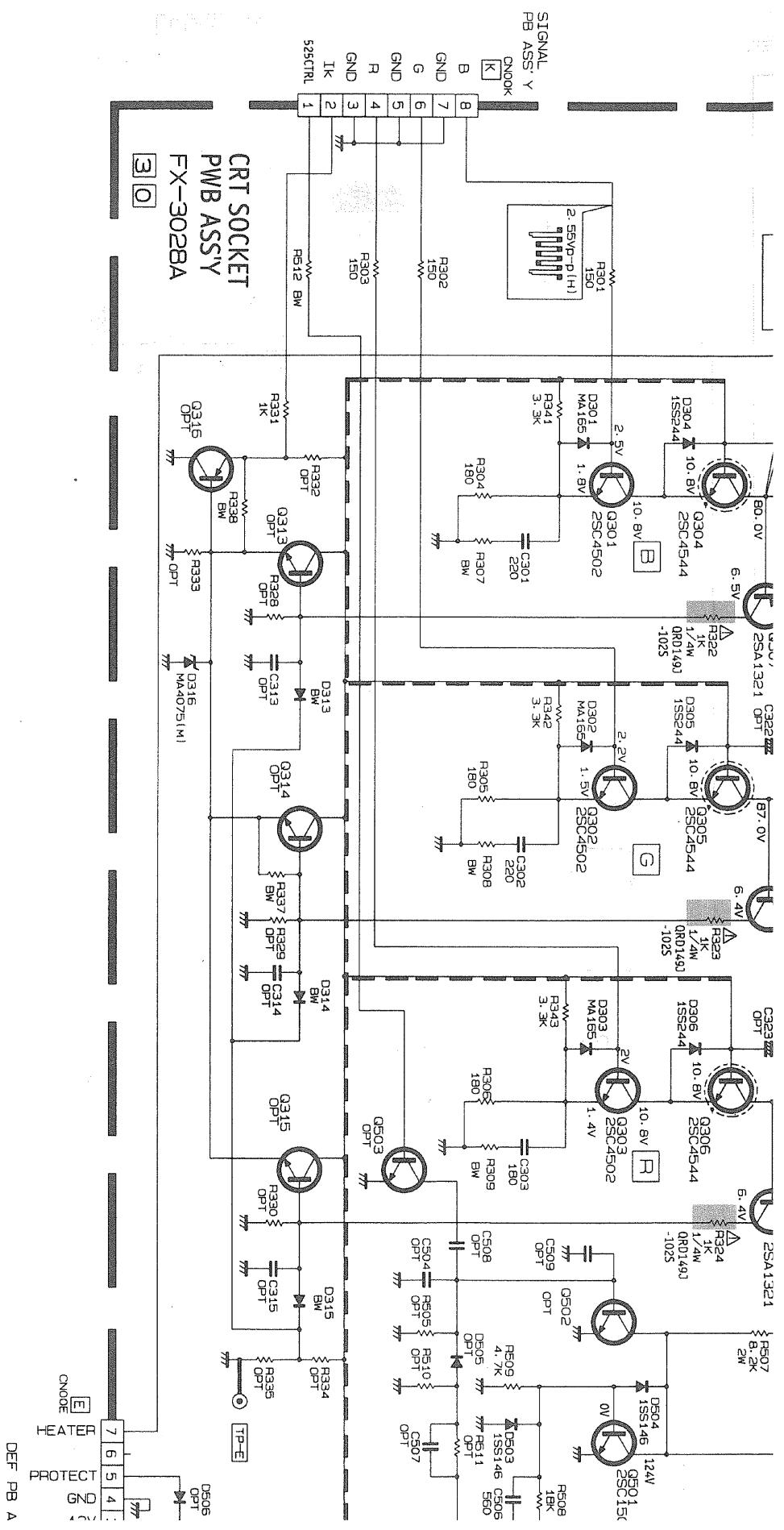
P2-36,37,38-a

P2-36,37,38-b



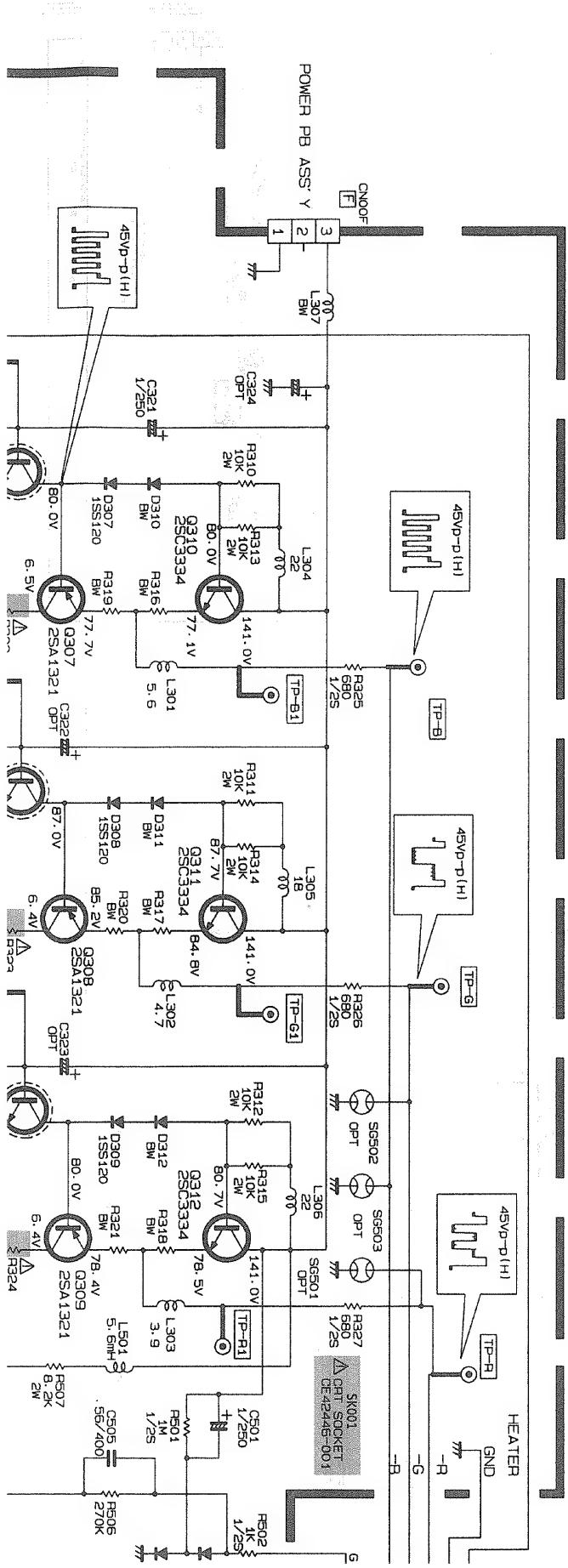
P2-36,37,38-c

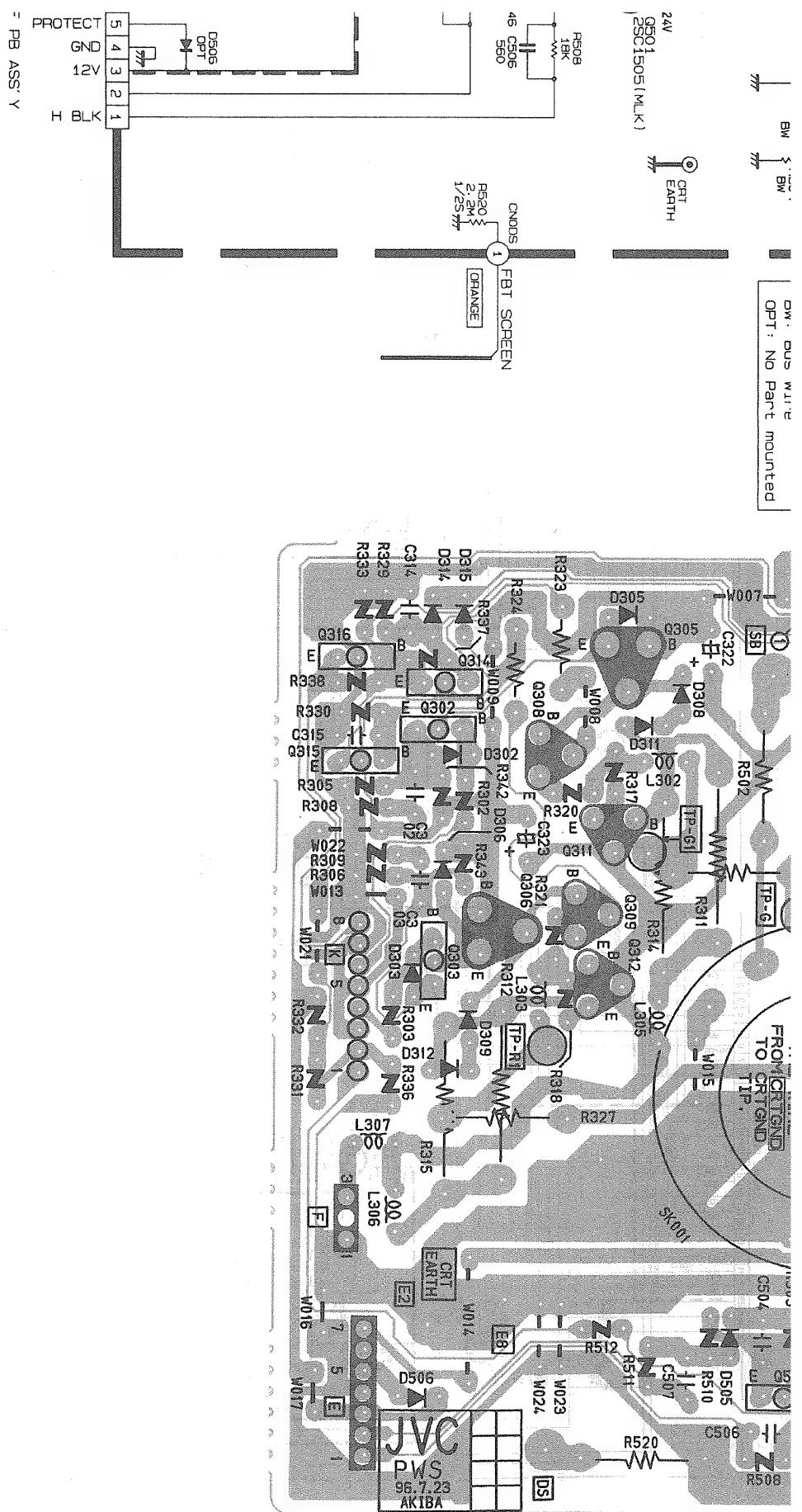
P2-36,37,38-d



BM-1400PN-A

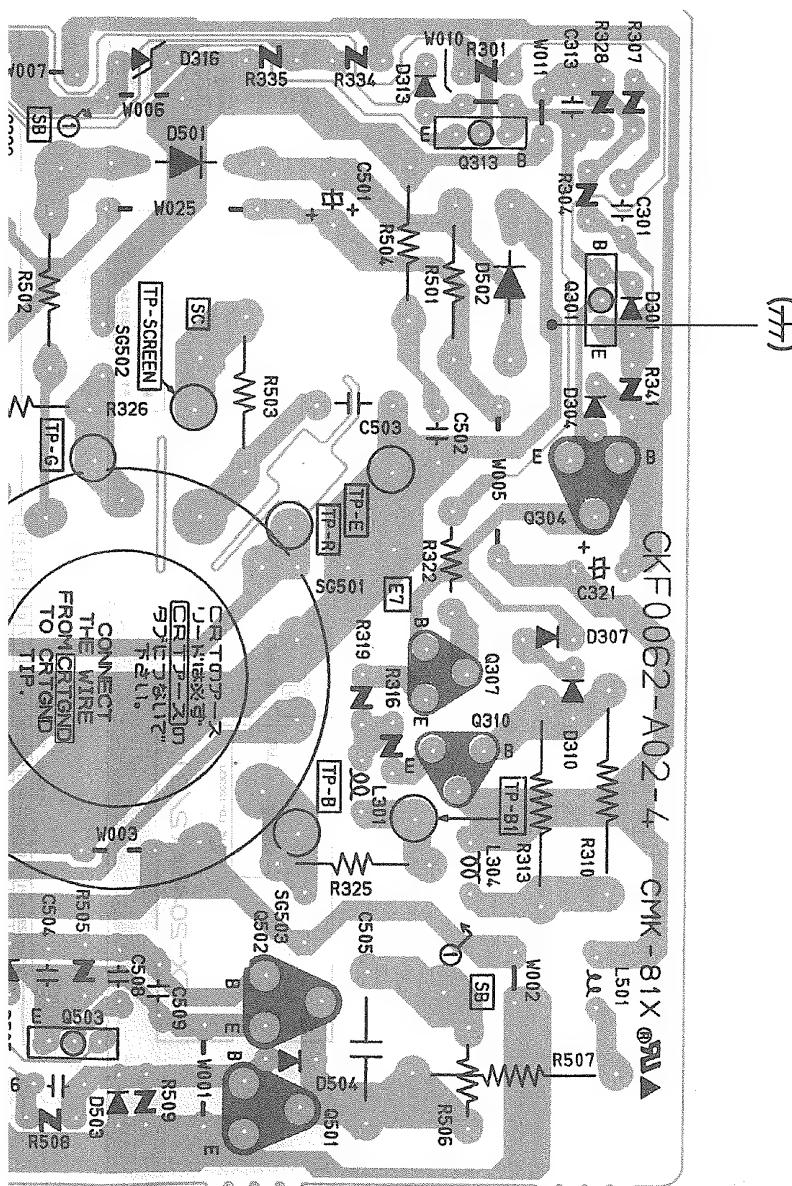
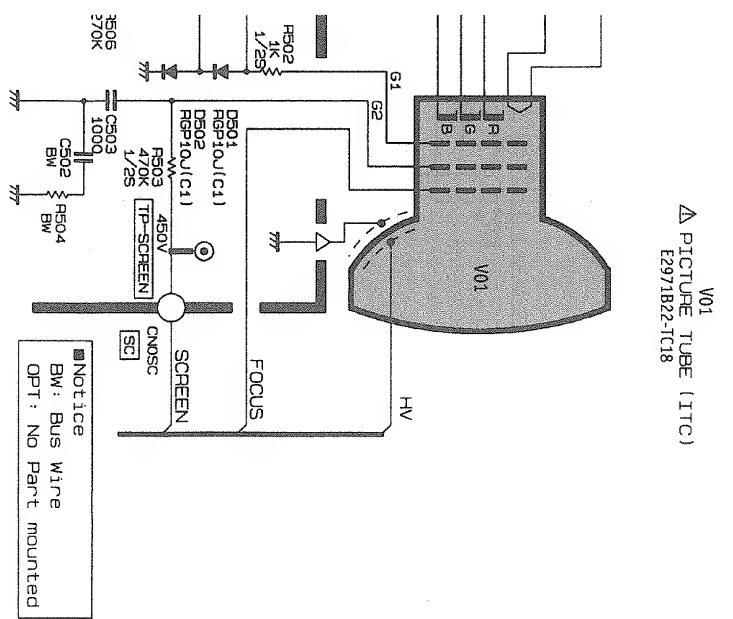
CRT SOCKET CIRCUIT DIAGRAM / PATTERN DIAGRAM (FX-3028A)





BM-1400PN-A BM-1400PN-A

BM-1400PN-A



PARTS LIST

CAUTION

- The parts identified by the  symbol are important for the safety . Whenever replacing these parts, be sure to use specified ones to secure the safety .
- The parts not indicated in this Parts List and those which are filled with lines — in the Parts No. columns will not be supplied .
- P. W. Board Ass'y will not be supplied, but those which are filled with the Parts No. in the Parts No. columns will be supplied .
- As a rule, the resistors and capacitors which are indicated as shown in "HOW TO EXPRESS PARTS NUMBERS OF STANDARD PARTS" are not shown in the list of the parts on the board .

When ordering the service parts, confirm the resistance/rated power, capacitance/rated voltage, and type of the parts, then order by the part No. indicated according to "HOW TO EXPRESS PARTS NUMBERS OF STANDARD PARTS" .

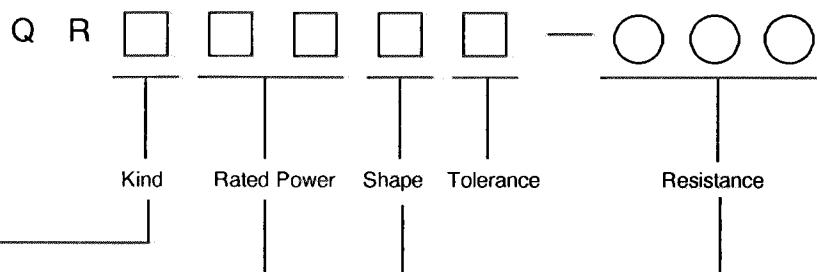
ABBREVIATIONS OF RESISTORS, CAPACITORS AND TOLERANCES

RESISTORS		CAPACITORS	
C R	Carbon Resistor	C CAP.	Ceramic Capacitor
F R	Fusible Resistor	E CAP.	Electrolytic Capacitor
P R	Plate Resistor	M CAP.	Mylar Capacitor
V R	Variable Resistor	HV CAP.	High Voltage Capacitor
H V R	High Voltage Resistor	MF CAP.	Metalized Film Capacitor
MF R	Metal Film Resistor	MM CAP.	Metalized Mylar Capacitor
MG R	Metal Glazed Resistor	MP CAP.	Metalized Polystyrol Capacitor
MP R	Metal Plate Resistor	PP CAP.	Polypropylene Capacitor
OM R	Metal Oxide Film Resistor	PS CAP.	Polystyrol Capacitor
CMF R	Coating Metal Film Resistor	TF CAP.	Thin Film Capacitor
UNF R	Non-Flammable Resistor	MPP CAP.	Metalized Polypropylene Capacitor
CH V R	Chip Variable Resistor	TAN. CAP.	Tantalum Capacitor
CH MG R	Chip Metal Glazed Resistor	CH C CAP.	Chip Ceramic Capacitor
COMP. R	Composition Resistor	BP E CAP.	Bi-Polar Electrolytic Capacitor
LPTC R	Linear Positive Temperature Coefficient Resistor	CH AL E CAP.	Chip Aluminum Electrolytic Capacitor
		CH AL BP CAP.	Chip Aluminum Bi-Polar Capacitor
		CH TAN. E CAP.	Chip Tantalum Electrolytic Capacitor
		CH AL BP E CAP.	Chip Tantalum Bi-Polar Electrolytic Capacitor

TOLERANCES									
F	G	J	K	M	N	R	H	Z	P
± 1%	± 2%	± 5%	± 10%	± 20%	± 30%	+ 30% - 10%	+ 50% - 10%	+ 80% - 20%	+ 100% - 0%

HOW TO EXPRESS PARTS NUMBERS OF STANDARD PARTS

■ RESISTOR



Symbol	Part Name
C	COMP.R
D	C R
S	CH MG R

Symbol	Rated Power
0 1	1 w
1 2	1/2 w
1 4	1/4 w
1 6	1/6 w
1 8	1/8 w

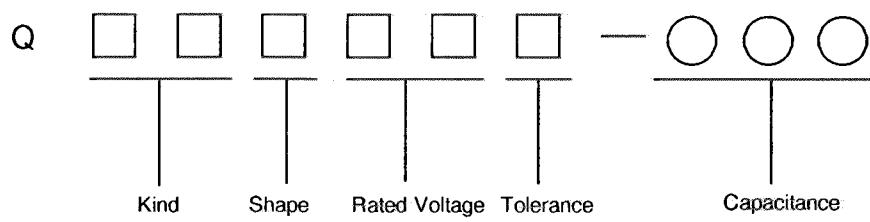
Symbol	Shape
1	Straight lead
8	Chip

Indicate with first two-figure expressed by Ω and following 0.
please note that,in case of resistance less than $10\ \Omega$, a letter "R" will be effective as point.

EX.

$2.2\ \Omega$	=	$2R2$
$470\ \Omega$	=	$47 \times 10^1 \rightarrow 471$
$150k\Omega$	=	$15 \times 10^4 \rightarrow 154$

■ CAPACITOR



Symbol	Part Name
CS	C CAP.
CS	CH C CAP.
ET	E CAP.
FM	M CAP.

5Figure 6Figure	0	1	2
A		10V	100V
C		16V	160V
D			200V
E		25V	250V
H		50V	500V
J	6.3V	63V	
V		35V	

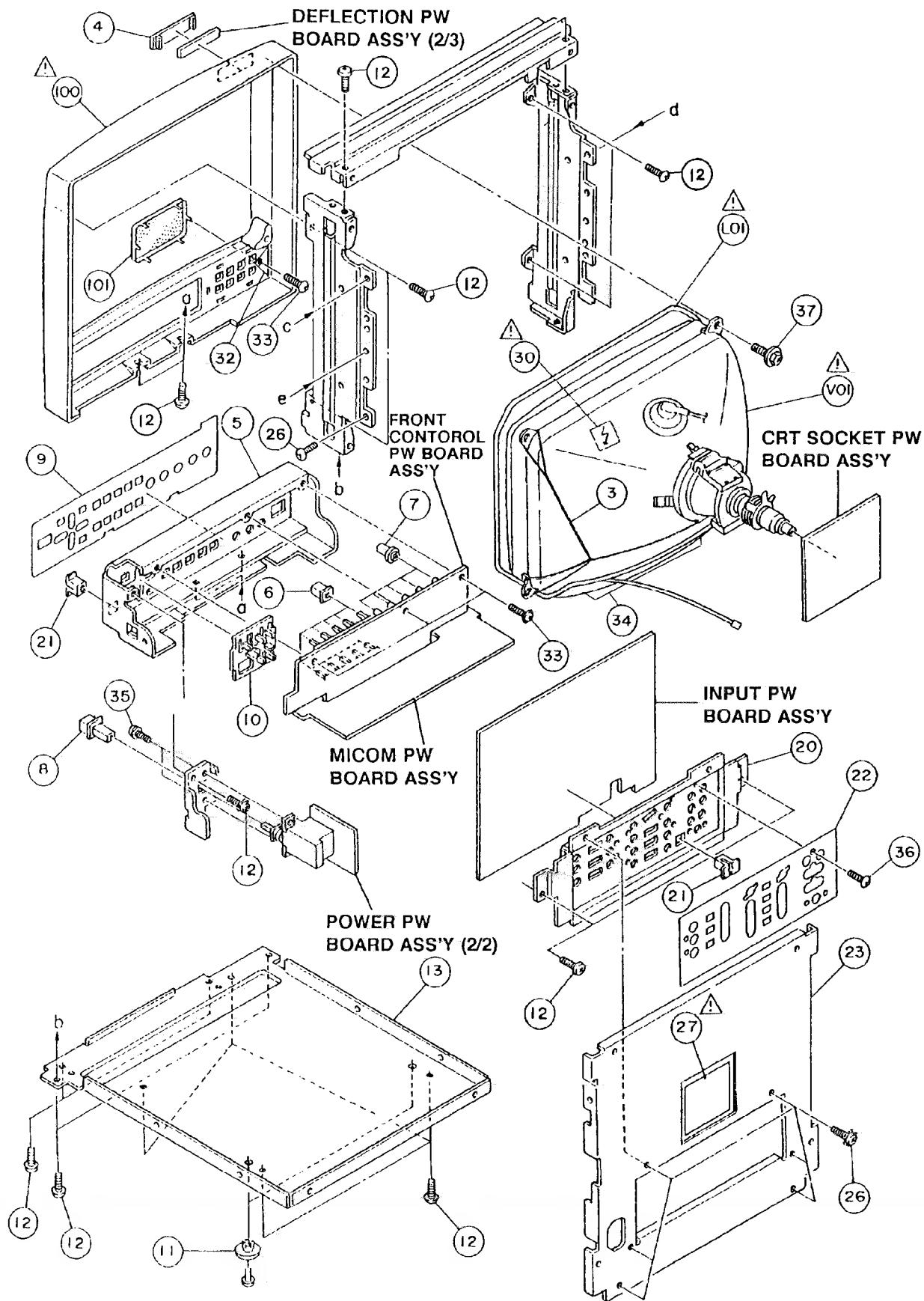
Indicate with first two-figure expressed by pF and following 0.
Please note that,in case of capacitance less than 10 pF a letter "R" will be effective as point.

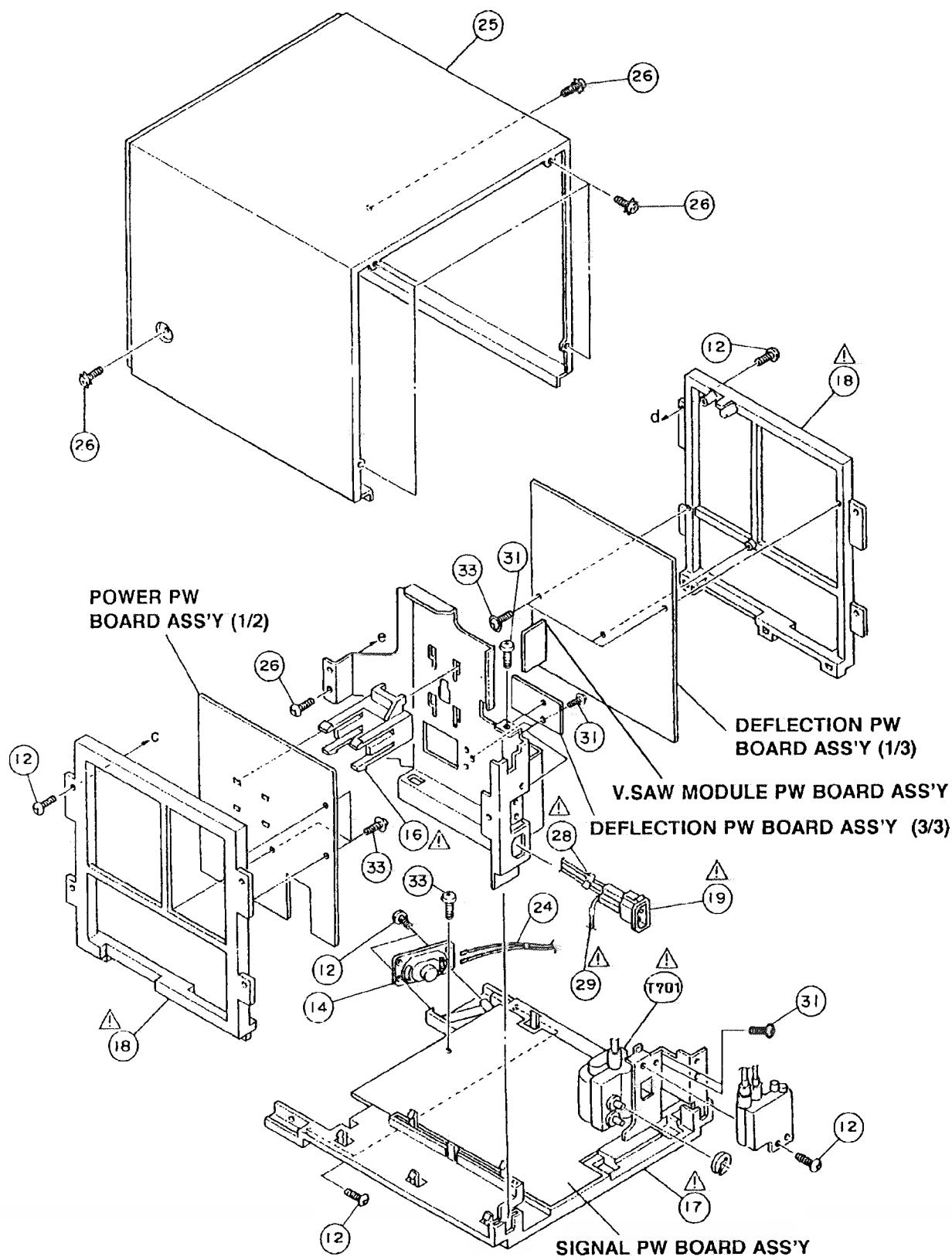
EX

5pF	=	5R0
1000pF	=	$10 \times 10^2 \rightarrow 102$
47 μ F	=	$47 \times 10^6 \rightarrow 476$

Symbol	Shape
1	Straight lead
1	Leads in the same direction
8	Chip
A	Leads in the same direction (compact part)

EXPLODED VIEW





EXPLODED VIEW PARTS LIST

Ref.No.	Part No.	Part Name	Description	Local
△ V01	E2971B22-TC18	ITC TUBE		
△ L01	CELD050-001	DEGAUSSING COIL		
△ T701	CJ27992-00B	FLYBACK TRANSF.		
3	CH30459-00C	BRAIDED ASSY		
4	CM44530-E01	TALLY PLATE		
5	CM22773-A01	CONTROL BKT		
6	CM46044-001	PUSH KNOB	× 10	
7	CM47853-005	VOLUME KNOB	× 5	
8	CM46115-C01	POWER KNOB		
9	CM35943-002	CONTROL SHEET		
10	CM35942-C01	CURSOL KNOB		
11	CM47686-00A	FOOT	× 2	
12	SBSF4012Z	T.SCREW	× 26	
13	CM12551-A01	BOTTOM COVER		
14	9050-03T	CONE SPEAKER	SP01	
△ 16	CM22752-001-V0	TRANSF HOLDER		
△ 17	CM12531-001-V0	CHASSIS BASE		
△ 18	CM12530-B01-V0	PB BASE	× 2	
△ 19	QMCB004-001	3P INLET		
20	CM35946-A01	TERMINAL PANEL		
21	CM48005-001	LINKAGE BUSHING	× 2	
22	CM35944-A02	TERMINAL SHEET		
23	CM12550-002	REAR PANEL		
24	CHGS0003-0E-G	S.P WIRE ASSY		
25	CM12535-001	TOP COVER		
26	CM44287-00C	ASSY SCREW	× 16	
△ 27	CM22867-021(R)	ROLL R LABEL		
△ 28	CHGY0032-0A-G	CONNECTOR ASSY		
△ 29	CHGY0033-0A-G	RECEP WIRE ASSY		
△ 30	CM48050-001	HV LABEL		
31	CM44287-00B	ASSY SCREW	× 6	
32	CM48065-001	EARTH PLATE		
33	GBSF3012Z	T.SCREW	× 10	
34	CM42321-007	SPONGE		
35	LPSP3008Z	ASSY SCREW	× 2	
36	SBG3008M	T.SCREW	× 17	
37	CM42937-001	ASSY SCREW	× 4	
△ 100	CM12533-C0B-M0	FRONT PANEL ASSY	Included No.101	
101	CM47947-001	SPEAKER NET		

PRINTED WIRING BOARD PARTS LIST

SIGNAL PW BOARD ASS'Y (FX-1084A)

Ref.No.	Part No.	Part Name	Description			Loca1
V A R I A B L E R E S I S T O R						
R1107	QVPC611-202HZ	V R	2k Ω	B(COMB1 LEVEL)		
R1117	QVPC611-501HZ	V R	500 Ω	B(COMB2 LEVEL)		
R1120	QVPC611-202HZ	V R	2k Ω	B(COMB2 PHASE)		
R1210	QVPC611-202HZ	V R	2k Ω	B(DL AMP)		
C A P A C I T O R						
C1102-06	NCB21HK-103AY	CHIP CAP.	0.01 μF	50V	K	
C1107	NCT03CH-121AY	CHIP CAP.	120 pF	50V	J	
C1108	NCT03CH-470AY	CHIP CAP.	47 pF	50V	J	
C1109-10	NCB21HK-103AY	CHIP CAP.	0.01 μF	50V	K	
C1111	NCT03CH-560AY	CHIP CAP.	56 pF	50V	J	
C1112-13	NCB21HK-103AY	CHIP CAP.	0.01 μF	50V	K	
C1114	QEN61CM-476Z	BP E CAP.	47 μF	16V	M	
C1115	NCT03CH-120AY	CHIP CAP.	12 pF	50V	J	
C1116	NCT03CH-560AY	CHIP CAP.	56 pF	50V	J	
C1117	QAT3110-300A	TRIM CAP.	30 pF	100V		
C1118	NCB21HK-103AY	CHIP CAP.	0.01 μF	50V	K	
C1122	QAT3110-300A	TRIM CAP.	30 pF	100V		
C1123	NCT03CH-101AY	CHIP CAP.	100 pF	50V	J	
C1124	NCB21HK-822AY	CHIP CAP.	8200 pF	50V	K	
C1201-02	NCB21HK-103AY	CHIP CAP.	0.01 μF	50V	K	
C1203	NCT03CH-680AY	CHIP CAP.	68 pF	50V	J	
C1204	NCB21HK-103AY	CHIP CAP.	0.01 μF	50V	K	
C1205	NCT03CH-820AY	CHIP CAP.	82 pF	50V	J	
C1206-07	QAT3110-450A	TRIM CAP.	45 pF	100V		
C1208	NCT03CH-121AY	CHIP CAP.	120 pF	50V	J	
C1209	QAT3110-450A	TRIM CAP.	45 pF	100V		
C1210	NCB21HK-103AY	CHIP CAP.	0.01 μF	50V	K	
C1211	NCT03CH-221AY	CHIP CAP.	220 pF	50V	J	
C1212	NCB21HK-273AY	CHIP CAP.	0.027 μF	50V	K	
C1213	NCB21HK-103AY	CHIP CAP.	0.01 μF	50V	K	
C1217	NCB21HK-103AY	CHIP CAP.	0.01 μF	50V	K	
C1218	QEN61CM-106Z	BP E CAP.	10 μF	16V	M	
C1219	QFLC1HJ-153MZ	M CAP.	0.015 μF	50V	J	
C1220	NCB21HK-103AY	CHIP CAP.	0.01 μF	50V	K	
C1221	NCT03CH-270AY	CHIP CAP.	27 pF	50V	J	
C1222	QAT3110-300A	TRIM CAP.	30 pF	100V		
C1223	NCT03CH-270AY	CHIP CAP.	27 pF	50V	J	
C1224	QAT3110-300A	TRIM CAP.	30 pF	100V		
C1225	NCT03CH-470AY	CHIP CAP.	47 pF	50V	J	
C1226	NCT03CH-390AY	CHIP CAP.	39 pF	50V	J	
C1227	NCT03CH-6R0AY	CHIP CAP.	6.0 pF	50V	J	
C1228	NCT03CH-181AY	CHIP CAP.	180 pF	50V	J	
C1229	NCT03CH-390AY	CHIP CAP.	39 pF	50V	J	
C1230	NCT03CH-6R0AY	CHIP CAP.	6.0 pF	50V	J	
C1231	NCT03CH-181AY	CHIP CAP.	180 pF	50V	J	
C1234	NCB21HK-473AY	CHIP CAP.	0.047 μF	50V	K	
C1235	NCB21HK-103AY	CHIP CAP.	0.01 μF	50V	K	
C1237	NCB21HK-103AY	CHIP CAP.	0.01 μF	50V	K	
C1238	NCB21HK-223AY	CHIP CAP.	0.022 μF	50V	K	
C1239	NCB21HK-103AY	CHIP CAP.	0.01 μF	50V	K	
C1240	NCB21HK-393AY	CHIP CAP.	0.039 μF	50V	K	
C1302	QFV71HJ-104MZ	TF CAP.	0.1 μF	50V	J	
C1306	QFV71HJ-104MZ	TF CAP.	0.1 μF	50V	J	
C1309	NCT03CH-8R0AY	CHIP CAP.	8.0 pF	50V	J	
C1332	QFV71HJ-104MZ	TF CAP.	0.1 μF	50V	J	
C1336	QFV71HJ-104MZ	TF CAP.	0.1 μF	50V	J	
C1362	QFV71HJ-104MZ	TF CAP.	0.1 μF	50V	J	
C1366	QFV71HJ-104MZ	TF CAP.	0.1 μF	50V	J	
C1382	NCB21HK-473AY	CHIP CAP.	0.047 μF	50V	K	
C1383	NCB21HK-103AY	CHIP CAP.	0.01 μF	50V	K	
C1402	NCB21HK-103AY	CHIP CAP.	0.01 μF	50V	K	

△ Symbol No.	Part No.	Part Name	Description	Local
C A P A C I T O R				
C1403	QEN61HM-105Z	BP E CAP.	1 μF	50V M
C1406-07	QFV71HJ-104MZ	TF CAP.	0.1 μF	50V J
C1410	QFV71HJ-104MZ	TF CAP.	0.1 μF	50V J
C1452	NCB21HK-103AY	CHIP CAP.	0.01 μF	50V K
C1453-54	NCB21HK-473AY	CHIP CAP.	0.047 μF	50V K
C1456-58	QEN61HM-105Z	BP E CAP.	1 μF	50V M
C1461	QFV71HJ-334MZ	TF CAP.	0.33 μF	50V J
C1462	NCB21HK-102AY	CHIP CAP.	1000 pF	50V K
C1463-65	QFV71HJ-224MZ	TF CAP.	0.22 μF	50V J
C1467	NCB21HK-103AY	CHIP CAP.	0.01 μF	50V K
C1469	NCB21HK-103AY	CHIP CAP.	0.01 μF	50V K
C1502	NCB21HK-103AY	CHIP CAP.	0.01 μF	50V K
C1503	QEN61CM-476Z	BP E CAP.	47 μF	16V M
C1504	QEN61HM-105Z	BP E CAP.	1 μF	50V M
C1505	NCB21HK-222AY	CHIP CAP.	2200 pF	50V K
C1508-09	NCB21HK-103AY	CHIP CAP.	0.01 μF	50V K
C1511	NCB21HK-222AY	CHIP CAP.	2200 pF	50V K
C1512	NCB21HK-102AY	CHIP CAP.	1000 pF	50V K
C1513	NCT03CH-101AY	CHIP CAP.	100 pF	50V J
C1516	NCT03CH-181AY	CHIP CAP.	180 pF	50V J
C1517	NCT03CH-151AY	CHIP CAP.	150 pF	50V J
C1552-54	NCB21HK-473AY	CHIP CAP.	0.047 μF	50V K
C1555	NCT03CH-391AY	CHIP CAP.	390 pF	50V J
C1556	NCT03CH-331AY	CHIP CAP.	330 pF	50V J
C1557-58	NCB21HK-222AY	CHIP CAP.	2200 pF	50V K
C1559	NCT03CH-5R0AY	CHIP CAP.	5 pF	50V J
C1560	QAT3110-450A	TRIM.CAP.	45 pF	100V
C1561	NCT03CH-680AY	CHIP CAP.	68 pF	50V J
C1562	NCT03CH-470AY	CHIP CAP.	47 pF	50V J
C1563	NCT03CH-680AY	CHIP CAP.	68 pF	50V J
C1564	NCT03CH-121AY	CHIP CAP.	120 pF	50V J
C1567	QFP31HJ-153SZ	PP CAP.	0.015 μF	50V J
C1568	NCB21HK-222AY	CHIP CAP.	2200 pF	50V K
C1571	NCB21HK-472AY	CHIP CAP.	4700 pF	50V K
C1601	QEHC1CM-107MZ	E CAP.	100 μF	16V M
C1602	NCB21HK-103AY	CHIP CAP.	0.01 μF	50V K
C1603	QEHC1HM-105MZ	E CAP.	1 μF	50V M
C1605	QFV71HJ-104MZ	TF CAP.	0.1 μF	50V J
C1607	QEHC1CM-227MZ	E CAP.	220 μF	16V M
C1610	QFV71HJ-104MZ	TF CAP.	0.1 μF	50V J
C1611	NCB21HK-333AY	CHIP CAP.	0.033 μF	50V K
C1612	QEHC1HM-475MZ	E CAP.	4.7 μF	50V M
C1702	QFLC1HK-473MZ	M CAP.	0.047 μF	50V K
△ C1703	QFZ0117-1001S	MPP CAP.	1000 pF	2000V ± 2.5%
T R A N S F O R M E R				
T1101	CE41072-001	B.PASS TRANSF.		
T1102	CE40176-001	DL P.TRANSF.		
T1201	CELT034-002	B.PASS TRANSF.		
C O I L				
L1101	CELP026-100Z	PEAKING COIL	10 μH	
L1102	CELP026-150Z	PEAKING COIL	15 μH	
L1103	CELP026-5R6Z	PEAKING COIL	5.6 μH	
L1104	CELP026-270Z	PEAKING COIL	27 μH	
L1201-02	CELP026-8R2Z	PEAKING COIL	8.2 μH	
L1203	CELP026-390Z	PEAKING COIL	39 μH	
L1204	CELP026-4R7Z	PEAKING COIL	4.7 μH	
L1206-07	CELP026-820Z	PEAKING COIL	82 μH	
L1601	CELP026-4R7Z	PEAKING COIL	4.7 μH	
D I O D E				
D1101	MA151K-X	DIODE		
D1201-03	MA151K-X	DIODE		
D1451-56	MA3082(M)-X	CHIP ZENER DIODE		
D1501	MA151K-X	DIODE		
D1502	MA3047(L)-X	CHIP ZENER DIODE		

△ Symbol No.	Part No.	Part Name	Description	Loca1
D I O D E				
D1702	1SS81-T5	SI.DIODE		
T R A N S I S T O R				
Q1101-05	2SC2712(YG)-X	CHIP TRANSISTOR		
Q1106-07	2SA1162(YG)-X	CHIP TRANSISTOR		
Q1108-15	2SC2712(YG)-X	CHIP TRANSISTOR		
Q1116-17	2SA1162(YG)-X	CHIP TRANSISTOR		
Q1118	2SC2712(YG)-X	CHIP TRANSISTOR		
Q1201-08	2SC2712(YG)-X	CHIP TRANSISTOR		
Q1210	2SC2712(YG)-X	CHIP TRANSISTOR		
Q1212	2SC2712(YG)-X	CHIP TRANSISTOR		
Q1301-02	2SC2712(YG)-X	CHIP TRANSISTOR		
Q1303	2SK374(Q)-X	F.E.T.		
Q1304-06	2SC2712(YG)-X	CHIP TRANSISTOR		
Q1307	2SA1162(YG)-X	CHIP TRANSISTOR		
Q1308	2SC2712(YG)-X	CHIP TRANSISTOR		
Q1331-32	2SC2712(YG)-X	CHIP TRANSISTOR		
Q1333	2SK374(Q)-X	F.E.T.		
Q1334	2SC2712(YG)-X	CHIP TRANSISTOR		
Q1361-62	2SC2712(YG)-X	CHIP TRANSISTOR		
Q1363	2SK374(Q)-X	F.E.T.		
Q1364	2SC2712(YG)-X	CHIP TRANSISTOR		
Q1451-53	2SC2712(YG)-X	CHIP TRANSISTOR		
Q1454	2SA1162(YG)-X	CHIP TRANSISTOR		
Q1455-62	2SC2712(YG)-X	CHIP TRANSISTOR		
Q1501	2SA1162(YG)-X	CHIP TRANSISTOR		
Q1502-05	2SC2712(YG)-X	CHIP TRANSISTOR		
Q1506	2SA1162(YG)-X	CHIP TRANSISTOR		
Q1507-09	2SC2712(YG)-X	CHIP TRANSISTOR		
Q1510	2SA1162(YG)-X	CHIP TRANSISTOR		
Q1511-15	2SC2712(YG)-X	CHIP TRANSISTOR		
I C				
IC1101	TC4053BP	I.C(DIGI-MOS)		
IC1201	AN5625N	I.C(MONO-ANA)		
IC1202	TC4053BP	I.C(DIGI-MOS)		
IC1203	AN5640	I.C(MONO-ANA)		
IC1204	UPC358HA	I.C(MONO-ANA)		
IC1301-03	UPC358HA	I.C(MONO-ANA)		
IC1304-05	TC4053BP	I.C(DIGI-MOS)		
IC1401	TDA4672	I.C(MONO-ANA)		
IC1402	TDA4680/V6	I.C(DIGI-OTHER)		
IC1403	AN7808	I.C.		
IC1501	TC4053BP	I.C(DIGI-MOS)		
IC1502-08	TC4538BP	I.C(DIGI-MOS)		
IC1509	TC4053BP	I.C(DIGI-MOS)		
IC1510	HD74LS00P	I.C(DIGI-OTHER)		
IC1511	HD74LS05P	I.C(DIGI-OTHER)		
IC1601	AN5265	I.C.		
O T H E R S				
CN1002	CHA401N-25P-J	HQF CONNECTOR		
DL1101	CE41577-002	DELAY LINE		
DL1102	CE40959-001	DELAY LINE		
DL1201	CE41489-001	DELAY LINE(1H)		
X1201	CE40668-001	CRYSTAL		
X1202	CE41953-001	CRYSTAL		

DEFLECTION PW BOARD ASS'Y (FX-2046A)

Symbol	No.	Part No.	Part Name	Description	Local
V A R I A B L E R E S I S T O R					
R2313		QVPC611-503HZ	V R	50k Ω B(SCREEN)	
R2416		QVPC611-102HZ	V R	1k Ω B(V.CENTER)	
R2503		QVPC611-502HZ	V R	5k Ω B(H.HOLD)	
R2582		QVPC611-303HZ	V R	30k Ω B(H.PHASE)	
R2612		QVPC611-502HZ	V R	5k Ω B(HVC)	
R E S I S T O R					
R2419		QRX029J-1R0	MF R	1.0 Ω	2W J
R2420		QRG029J-270	OM R	27 Ω	2W J
R2422		QRG019J-101S	OM R	100 Ω	1W J
R2440		QRF074K-3R3	UNF R	3.3 Ω	7W K
R2512-13		QRF074K-4R7	UNF R	4.7 Ω	7W K
R2515		QRG029J-182	OM R	1.8k Ω	2W J
R2520		QRG029J-221	OM R	220 Ω	2W J
R2530-31		QRX029J-4R7	MF R	4.7 Ω	2W J
R2532		QRG029J-222	OM R	2.2k Ω	2W J
R2548-49		QRG029J-221	OM R	220 Ω	2W J
R2550		QRG029J-152	OM R	1.5k Ω	2W J
R2592		QRX029J-R56A	MF R	0.56 Ω	2W J
R2593		QRX029J-R82A	MF R	0.82 Ω	2W J
▲ R2714		QRV141F-2702AY	MF R	27k Ω	1/4W F
▲ R2715		QRV141F-6801AY	MF R	6.8k Ω	1/4W F
R2801		QRG029J-100	OM R	10 Ω	2W J
C A P A C I T O R					
C2301		QFLC1HK-102MZ	M CAP.	1000 p F	50V K
C2302		QEHC1HM-106MZ	E CAP.	10 μ F	50V M
C2303		QFZ0117-4701S	MPP CAP.	4700 p F	2000V ± 2.5%
C2304		QEHC1HM-476MZ	E CAP.	47 μ F	50V M
C2305		QEN61CM-106Z	BP E CAP.	10 μ F	16V M
C2402		QFLC1HK-823MZ	M CAP.	0.082 μ F	50V K
C2403		QEHC1HM-475MZ	E CAP.	4.7 μ F	50V M
C2406		QEHC1CM-107MZ	E CAP.	100 μ F	16V M
C2408		QEHC1HM-227MZ	E CAP.	220 μ F	50V M
C2409		QFV71HJ-104MZ	TF CAP.	0.1 μ F	50V J
C2410		QFLB2AK-154M	M CAP.	0.15 μ F	100V K
C2412		QFLC2AJ-102MZ	M CAP.	1000 p F	100V J
C2413		QFLC1HK-153MZ	M CAP.	0.015 μ F	50V K
C2415		QEHC1VM-107MZ	E CAP.	100 μ F	35V M
C2416-17		QEHC1EM-108MZ	E CAP.	1000 μ F	25V M
C2418		QEHC1EM-477MZ	E CAP.	470 μ F	25V M
C2419		QEHC1EM-227MZ	E CAP.	220 μ F	25V M
C2420		QEHC1CM-337MZ	E CAP.	330 μ F	16V M
C2421		QEHC1EM-477MZ	E CAP.	470 μ F	25V M
C2422		QEHB1VM-108M	E CAP.	1000 μ F	35V M
C2423		QEHC1CM-107MZ	E CAP.	100 μ F	16V M
C2425		QEHC1EM-227MZ	E CAP.	220 μ F	25V M
C2426		QEHC1CM-337MZ	E CAP.	330 μ F	16V M
C2427		QEHC1EM-227MZ	E CAP.	220 μ F	25V M
C2428		QEHC1CM-337MZ	E CAP.	330 μ F	16V M
C2502		QFP31HJ-332SZ	PP CAP.	3300 p F	50V J
C2503		QFLC1HJ-222MZ	M CAP.	2200 p F	50V J
C2504		QFV71HJ-824MZ	TF CAP.	0.82 μ F	50V J
C2505		QFLC1HJ-822MZ	M CAP.	8200 p F	50V J
C2511		QFLC1HK-563MZ	M CAP.	0.056 μ F	50V K
C2512		QFLC1HK-153MZ	M CAP.	0.015 μ F	50V K
C2514		QFLC2AK-104MZ	M CAP.	0.1 μ F	50V K
▲ C2518		QFZ0119-155S	MPP CAP.	1.5 μ F	200V ± 3%
▲ C2519		QFZ0119-155S	MPP CAP.	1.5 μ F	200V ± 3%
▲ C2520		QFZ0119-304S	MPP CAP.	0.3 μ F	200V ± 3%
C2524		QFLC1HK-104MZ	M CAP.	0.1 μ F	50V K
▲ C2525		QFZ0117-1801S	MPP CAP.	1800 p F	2000V ± 2.5%
C2526		QEHC1EM-108MZ	E CAP.	1000 μ F	25V M
C2527		QFLC1HK-473MZ	M CAP.	0.047 μ F	50V K
C2528		QEHC1CM-108MZ	E CAP.	1000 μ F	16V M

△ Symbol No.	Part No.	Part Name	Description	Loca1
C A P A C I T O R				
C2529	QEHC1EM-108MZ	E CAP.	1000 μ F 25V M	
△ C2530	QFZ0117-7001S	MPP CAP.	7000 p F 2000V \pm 2.5%	
△ C2531	QFZ0117-3001S	MPP CAP.	3000 p F 2000V \pm 2.5%	
△ C2532	QFZ0117-9001S	MPP CAP.	9000 p F 1.4kVH \pm 2.5%	
C2533	QEHC1EM-108MZ	E CAP.	1000 μ F 25V M	
C2537-38	QEZO195-475MZ	E CAP.	4.7 μ F 50V M	
C2539	QEHB1CM-228M	E CAP.	2200 μ F 16V M	
C2555-56	QCT25CH-680Z	C CAP.	68 p F 50V J	
C2557	QCT25CH-560Z	C CAP.	56 p F 50V J	
C2558	QFV71HJ-104MZ	TF CAP.	0.1 μ F 50V J	
C2561	QEN61HM-474Z	BP E CAP.	0.47 μ F 50V M	
C2562	QEN61HM-475Z	BP E CAP.	4.7 μ F 50V M	
C2601	QFLC1HJ-103MZ	M CAP.	0.01 μ F 50V J	
C2602	QEHC1CM-107MZ	E CAP.	100 μ F 16V M	
C2603	QFV71HJ-104MZ	TF CAP.	0.1 μ F 50V J	
C2701	QETC1HM-106Z	E CAP.	10 μ F 50V M	
C2702	QEHC1HM-107MZ	E CAP.	100 μ F 50V M	
C2703	QEHC1CM-337MZ	E CAP.	330 μ F 16V M	
C2704	QEHC1EM-107MZ	E CAP.	100 μ F 25V M	
C2705	QEN61EM-107Z	BP E CAP.	100 μ F 25V M	
C2801	QEHB1VM-108M	E CAP.	1000 μ F 35V M	
T R A N S F O R M E R				
△ T2502	CE42034-001	H.DRIVE TRANSF.		
T2505	CE41916-008	CHOPPER TRANSF		
C O I L				
△ L2502	CELL008-001	LINIARITY COIL		
L2701	CJ30030-028	HEATER CHOKE		
D I O D E				
D2301	RU4DS-C1	SI.DIODE		
D2302	1SS133-T2	SI.DIODE		
D2303	MA4062(M)-T2	ZENER DIODE		
D2304	1SS133-T2	SI.DIODE		
D2305	RD9.1ES(B3)-T2	ZENER DIODE		
D2306-09	1SS133-T2	SI.DIODE		
D2310	RD3.3ES(B2)-T2	ZENER DIODE		
D2401	1SS133-T2	SI.DIODE		
D2402	RGP10J(C1)-T3	SI.DIODE		
D2404	RU30-C1	SI.DIODE		
D2405	RD3.9ES(B2)-T2	ZENER DIODE		
D2406	RD75E(B)-T5	ZENER DIODE		
D2407	1SS133-T2	SI.DIODE		
△ D2501	ERD07-15-L	SI.DIODE		
D2502	1SS133-T2	SI.DIODE		
D2503	RD10ES(B3)-T2	ZENER DIODE		
D2504-05	RH4F-C1	SI.DIODE		
D2506-07	RU3AM-LFC4	SI.DIODE		
D2509	RU4AM-C1	SI.DIODE		
D2510	MA165-T2	SI.DIODE		
D2511	RU3AM-LFC4	SI.DIODE		
D2512	1SS81-T2	SI.DIODE		
D2513	MA4220(M)-T2	ZENER DIODE		
D2515	LD-1203DU	L.E.D.(ORG)	TALLY	
D2601-02	1SS81-T2	SI.DIODE		
D2603	MA4047(M)-T2	ZENER DIODE		
△ D2701	MA4068(N)C1-T2	ZENER DIODE		
D2702	1SS82-T2	SI.DIODE		
D2703-04	1SS133-T2	SI.DIODE		
D2705	1SS146-T2	SI.DIODE		
D2706	MA4110(M)-T2	ZENER DIODE		
D2708	1SS133-T2	SI.DIODE		
D2709	1SS146-T2	SI.DIODE		
D2711	1SS133-T2	SI.DIODE		

△ Symbol No.	Part No.	Part Name	Description	Local
TRANSISTOR				
Q2301	2SC4632	SI.TRANSISTOR		
Q2302-04	2SC1815(YG)-T	SI.TRANSISTOR		
Q2402-05	2SC1815(YG)-T	SI.TRANSISTOR		
Q2501	2SC3187-T	SI.TRANSISTOR		
△ Q2502	2SC4589-C1	SI.TRANSISTOR	H.OUT	
Q2504	2SA1309A(R)-T	SI.TRANSISTOR		
Q2506	2SC1815(YG)-T	SI.TRANSISTOR		
Q2610	2SA1309A(R)-T	SI.TRANSISTOR		
Q2551-52	2SC1815(YG)-T	SI.TRANSISTOR		
Q2554	2SC1815(Y)-T	SI.TRANSISTOR		
Q2556	2SC1815(YG)-T	SI.TRANSISTOR		
Q2601	2SC1959(Y)-T	SI.TRANSISTOR		
Q2603	2SC1959(Y)-T	SI.TRANSISTOR		
Q2701	2SC1815(YG)-T	SI.TRANSISTOR		
I C				
IC2301	NJM4560D	I.C(MONO-ANA)		
IC2303	AN79L05-Y	I.C.		
IC2401	UPC1498H	I.C.(MONO-ANA)		
IC2403	NJM4560D	I.C.(MONO-ANA)		
IC2404	AN7812F	I.C.(MONO-ANA)		
IC2405	TA79012S	I.C.(MONO-ANA)		
IC2406	TA78L012AP-Y	I.C.(MONO-ANA)		
IC2407	AN7812F	I.C(MONO-ANA)		
IC2408	AN7805F	I.C(MONO-ANA)		
IC2501	HA11423	I.C(MONO-ANA)		
IC2551	TC4066BP	I.C(DIGI-MOS)		
IC2553	TC4538BP	I.C(DIGI-MOS)		
IC2554	LM2940CT-12	I.C.(MONO-ANA)		
IC2555	AN7812F	I.C(MONO-ANA)		
IC2601	NJM4560D	I.C(MONO-ANA)		
OTHERS				
△ CP2001	ICP-N75-Y	I.C.PROTECT		
△ FR2301	QRH127J-182M	F R	1.8k Ω	1/2W J
△ FR2426	QRH127K-R22M	F R	0.22 Ω	1/2W K
△ FR2525	QRH127J-1R0M	F R	1.0 Ω	1/2W J
△ FR2702	QRH127K-R22M	F R	0.22 Ω	1/2W K
△ FR2704	QRH127J-4R7M	F R	4.7 Ω	1/2W J
K2001	CE41923-001	CORE SLEEVE		
S2501	QSS1F22-C09	SLIDE SWITCH	FREE RUN	

CRT SOCKET PW BOARD ASS'Y (FX-3028A)

△ Symbol No.	Part No.	Part Name	Description			Local
R E S I S T O R						
R3310-15	QRG029J-103	OM R	10k Ω	2W	J	
△ R3322	QRD149J-102S	C R	1k Ω	1/4W	J	
△ R3323	QRD149J-102S	C R	1k Ω	1/4W	J	
△ R3324	QRD149J-102S	C R	1k Ω	1/4W	J	
R3507	QRG029J-822	OM R	8.2k Ω	2W	J	
C A P A C I T O R						
C3321	QETC2EM-105Z	E CAP.	1 μF	250V	M	
C3501	QETC2EM-105Z	E CAP.	1 μF	250V	M	
C3503	QCZ0121-102M	C CAP.	1000 pF	3000V	P	
C3505	QFP32GK-563M	PP CAP.	0.056 μF	400V	K	
C O I L						
L3301	CELP026-5R6Z	PEAKING COIL	5.6 μH			
L3302	CELP026-4R7Z	PEAKING COIL	4.7 μH			
L3303	CELP026-3R9Z	PEAKING COIL	3.9 μH			
L3304	CELP026-220Z	PEAKING COIL	22 μH			
L3305	CELP026-180Z	PEAKING COIL	18 μH			
L3306	CELP026-220Z	PEAKING COIL	22 μH			
L3501	CELC050-562Z	PEAKING COIL	5600 μH			
D I O D E						
D3301-03	MA165-T2	SI.DIODE				
D3304-06	1SS244-T2	SI.DIODE				
D3307-09	1SS120-T2	SI DIODE				
D3316	MA4075(M)-T2	ZENER DIODE				
D3501-02	RGP10J(C1)-T3	SI.DIODE				
D3603-04	1SS146-T2	SI.DIODE				
T R A N S I S T O R						
Q3301-03	2SC4502-T	SI.TRANSISTOR				
Q3304-06	2SC4544-C1	SI.TRANSISTOR				
Q3307-09	2SA1321-T	SI TRANSISTOR				
Q3310-12	2SC3334-T	SI TRANSISTOR				
Q3501	2SC1505(MLK)	SI.TRANSISTOR				
O T H E R S						
△ SK3001	CE42446-001	CRT SOCKET				

FRONT CONTROL PW BOARD ASS'Y (FX-4034A)

△ Symbol No.	Part No.	Part Name	Description	Local
V A R I A B L E R E S I S T O R				
VR4101	QVGA003-CB14A	V R	10k Ω B(BRIGHT)	
VR4102	QVGA003-CB14A	V R	10k Ω B(CONTRAST)	
VR4103	QVGA003-CB14A	V R	10k Ω B(CHROMA)	
VR4104	QVGA003-CB14A	V R	10k Ω B(PHASE)	
VR4105	QVGA004-CB14A	V R	10k Ω B(VOLUME)	
C A P A C I T O R				
C4101	QEKC0JM-107MZ	E CAP.	100 μF 6.3V M	
C4102	QCZ0207-104AZ	C CAP.	0.1 μF 50V Z	
D I O D E				
D4101-14	MA165-T2	SI.DIODE		
D4115-19	RD5.6ES(B3)-T2	ZENER DIODE		
D4120	GL5KG8	L E D (GRN)		POWER
D4121-23	MA165-T2	SI.DIODE		
O T H E R S				
S4101	CM48038-001	LED HOLDER		
S4102	QSTL535-C01	PUSH SWITCH	UNDER SCAN etc	
S4103	QSTL535-C02	PUSH SWITCH	VIDEO A/B,RGB,etc	
S4104	QSP4H11-C12Z	PUSH SWITCH	MENU	
S4105	QSP4H11-C12Z	PUSH SWITCH	ENTER	
S4106	QSP4H11-C12Z	PUSH SWITCH	UP	
S4107	QSP4H11-C12Z	PUSH SWITCH	DOWN	
S4108	QSP4H11-C12Z	PUSH SWITCH	LEFT	
S4109	QSP4H11-C12Z	PUSH SWITCH	RIGHT	
			DEGAUSS	

MICOM PW BOARD ASS'Y (FX-5018A)

△ Symbol No.	Part No.	Part Name	Description	Local
C A P A C I T O R				
C5101	QEKC1CM-476MZ	E CAP.	47 μF 16V M	
C5102	NCB21HK-103AY	CHIP CAP.	0.01 μF 50V K	
C5103-04	NCF21HZ-104AY	CHIP CAP.	0.1 μF 50V Z	
C5105-09	NCB21HK-103AY	CHIP CAP.	0.01 μF 50V K	
C5110	NCF21HZ-104AY	CHIP CAP.	0.1 μF 50V Z	
C5111	NCF21HZ-104AY	CER.CAPACITOR-M	0.1 μF 50V Z	
C5112	NCF21HZ-104AY	CHIP CAP.	0.1 μF 50V Z	
C5113	QEKC1CM-476MZ	E CAP.	47 μF 16V M	
C5114	NCT03CH-330AY	CHIP CAP.	33 pF 50V J	
C5116	NCF21HZ-104AY	CHIP CAP.	0.1 μF 50V Z	
C5117	QEKC0JM-107MZ	E CAP.	100 μF 6.3V M	
C5118	NCF21HZ-104AY	CHIP CAP.	0.1 μF 50V Z	
C5119	QEKC0JM-107MZ	E CAP.	100 μF 6.3V M	
C5120	NCF21HZ-104AY	CHIP CAP.	0.1 μF 50V Z	
C5121	QEKC0JM-107MZ	E CAP.	100 μF 6.3V M	
C5122	NCF21HZ-104AY	CHIP CAP.	0.1 μF 50V Z	
C5123	QEKC1CM-476MZ	E CAP.	47 μF 16V M	
C5124	NCF21HZ-104AY	CHIP CAP.	0.1 μF 50V Z	
C5126	NCF21HZ-104AY	CHIP CAP.	0.1 μF 50V Z	
C5127	NCT03CH-7R0AY	CHIP CAP.	7.0 pF 50V J	
C5128-29	NCF21HZ-104AY	CHIP CAP.	0.1 μF 50V Z	
C5201-03	QEKC1HM-105GMZ	E CAP.	1 μF 50V M	
C5301	QEKC1CM-106GMZ	E CAP.	10 μF 16V M	
C5302	QEKC1HM-224GMZ	E CAP.	0.22 μF 50V M	
C5303	NCB21HK-223AY	CHIP CAP.	0.022 μF 50V K	
C5304	QEKC1HM-105GMZ	E CAP.	1 μF 50V M	
C5401-03	QEKC1HM-105GMZ	E CAP.	1 μF 50V M	

△ Symbol No.	Part No.	Part Name	Description	Local
C O I L				
L5101-02	CELP008-100YL	CHIP P COIL	10 μ H	
L5103	CELP008-330YL	INDUCTOR	33 μ H	
D I O D E				
D5101-11	MA3056(L)-X	ZENER DIODE		
D5112	MA3043-X	ZENER DIODE		
D5113-14	MA151K-X	DIODE		
D5301	MA151K-X	DIODE		
D5501-04	MA3056(L)-X	ZENER DIODE		
D5701	MA3150(M)-X	ZENER DIODE		
D5702-04	MA3056(L)-X	ZENER DIODE		
D5705-06	MA3150(M)-X	ZENER DIODE		
D5707-08	MA3056(L)-X	ZENER DIODE		
D5709-11	MA3150(M)-X	ZENER DIODE		
D5712	MA8130-X	ZENER DIODE		
D5713	MA3056(L)-X	ZENER DIODE		
D5714	MA8056-X	ZENER DIODE		
D5715	MA3056(L)-X	ZENER DIODE		
D5716	MA8056-X	ZENER DIODE		
D5717	MA3150(M)-X	ZENER DIODE		
D5718	MA3056(L)-X	ZENER DIODE		
D5719	MA8130-X	ZENER DIODE		
D5720-22	MA3056(L)-X	ZENER DIODE		
D5723	MA8056-X	ZENER DIODE		
D5724	MA3150(M)-X	ZENER DIODE		
D5725	MA8130-X	ZENER DIODE		
D5726	MA3056(L)-X	ZENER DIODE		
D5727	MA8056-X	ZENER DIODE		
D5728-32	MA3056(L)-X	ZENER DIODE		
T R A N S I S T O R				
Q5101-06	2SC2712(YG)-X	CHIP TRANSISTOR		
Q5201	2SC2712(YG)-X	CHIP TRANSISTOR		
Q5202	2SA1162(YG)-X	CHIP TRANSISTOR		
Q5203	2SC2712(YG)-X	CHIP TRANSISTOR		
Q5204	2SA1162(YG)-X	CHIP TRANSISTOR		
Q5205	2SC2712(YG)-X	CHIP TRANSISTOR		
Q5206	2SA1162(YG)-X	CHIP TRANSISTOR		
Q5207-10	2SC2712(YG)-X	CHIP TRANSISTOR		
Q5301-03	2SA1162(YG)-X	CHIP TRANSISTOR		
Q5304	2SC2712(YG)-X	CHIP TRANSISTOR		
Q5401	2SC2712(YG)-X	CHIP TRANSISTOR		
I C				
IC5101	MB89647PF-140	I C		
IC5102	MB90077PF-109	I.C.(MICRO-COMP)		
IC5103	ST24BM-1400	I.C.(EP-ROM)	(SERVICE)	
IC5105	GP1U781Q	IFR DETECT UNIT		
IC5106	HD74HC158FP	I.C.(DIGI-OTHER)		
IC5108	HD74HC32FP	I.C.		
IC5401	UPC4558G-W	I.C.(MONO-ANA)		
O T H E R S				
CF5101	CST8.00MTW	CER. RESONATOR		

INPUT PW BOARD ASS'Y (FX-6052A)

△ Symbol	No.	Part No.	Part Name	Description			Local
R E S I S T O R							
R6201		QRV141F-75R0AY	MF R	75 Ω	1/4W	F	
R6211		QRV141F-75R0AY	MF R	75 Ω	1/4W	F	
R6231		QRV141F-75R0AY	MF R	75 Ω	1/4W	F	
R6301		QRV141F-75R0AY	MF R	75 Ω	1/4W	F	
R6701		QRV141F-75R0AY	MF R	75 Ω	1/4W	F	
R6731		QRV141F-75R0AY	MF R	75 Ω	1/4W	F	
R6761		QRV141F-75R0AY	MF R	75 Ω	1/4W	F	
C A P A C I T O R							
C6201		QEKC1HM-475GMZ	E CAP.	4.7 μF	50V	M	
C6203		QEKC1CM-336MZ	E CAP.	33 μF	16V	M	
C6205		QEKC1HM-475GMZ	E CAP.	4.7 μF	50V	M	
C6207		QEKC1CM-336MZ	E CAP.	33 μF	16V	M	
C6220		QEKC1HM-475GMZ	E CAP.	4.7 μF	50V	M	
C6230-31		QFLC1HK-333MZ	M CAP.	0.033 μF	50V	K	
C6281-84		QEKC1CM-107MZ	E CAP.	100 μF	16V	M	
C6301		QFLC1HJ-103MZ	M CAP.	0.01 μF	50V	J	
C6751		QEKC1HM-475GMZ	E CAP.	4.7 μF	50V	M	
C6783-84		QFLC1HJ-104MZ	M CAP.	0.1 μF	50V	J	
C O I L							
L6701		CELP026-330Z	PEAKING COIL	33 μH			
L6702		CELP026-680Z	PEAKING COIL	68 μH			
L6703		CELP026-330Z	PEAKING COIL	33 μH			
L6704		CELP026-680Z	PEAKING COIL	68 μH			
D I O D E							
D6201-09		1SS133-T2	SI.DIODE				
D6211-12		1SS133-T2	SI.DIODE				
D6301-03		1SS133-T2	SI.DIODE				
D6701-12		1SS133-T2	SI.DIODE				
D6801-10		1SS133-T2	SI.DIODE				
T R A N S I S T O R							
Q6201-03		2SC1740S(R)-T	SI.TRANSISTOR				
Q6204		2SC1740S(QR)-T	SI.TRANSISTOR				
Q6206		2SC1740S(QR)-T	SI.TRANSISTOR				
Q6211		2SK301(Q)-T	F.E.T.				
Q6301		2SC1740S(R)-T	SI.TRANSISTOR				
Q6302-03		2SC1740S(QR)-T	SI.TRANSISTOR				
Q6601-03		2SC1740S(R)-T	SI.TRANSISTOR				
Q6604-06		2SC1740S(QR)-T	SI.TRANSISTOR				
Q6701-03		2SC1740S(R)-T	SI.TRANSISTOR				
Q6704		2SC1740S(QR)-T	SI.TRANSISTOR				
Q6706		2SC1740S(QR)-T	SI.TRANSISTOR				
Q6707		2SA933S(QR)-T	SI.TRANSISTOR				
Q6708-09		2SC1740S(QR)-T	SI.TRANSISTOR				
Q6711		2SC1740S(QR)-T	SI.TRANSISTOR				
Q6712		2SA933S(QR)-T	SI.TRANSISTOR				
Q6713-14		2SC1740S(QR)-T	SI.TRANSISTOR				
Q6716-20		2SC1740S(QR)-T	SI.TRANSISTOR				
I C							
IC6201		LA7016	I.C(MONO-ANA)				
IC6601		TC4066BP	I.C(DIGI-MOS)				
IC6701		TC4053BP	I.C(DIGI-MOS)				
IC6801		HD74LS04P	I.C(DIGI-OTHER)				
O T H E R S							
J6201		CEMB010-004	BNC CONNECTOR	VIDEO A/B /SYNC IN			
J6202		CEMB010-004	BNC CONNECTOR	VIDEO A/B /SYNC OUT			
J6301		QMCC006-C01	DIN CONNECTOR	Y/C IN			
J6302		QMCC006-C01	DIN CONNECTOR	Y/C OUT			
J6601		CEMN070-001	PIN JACK	AUDIO A OUT/IN			
J6602		CEMN070-001	PIN JACK	AUDIO B OUT/IN			
J6603		CEMN070-001	PIN JACK	AUDIO C OUT/IN			
J6701		CEMB010-004	BNC CONNECTOR	G/Y/B-B-Y/R/R-Y IN			

▲ Ref.No.	Part No.	Part Name	Description	Local
OTHERS				
J6702	CEMB010-004	BNC CONNECTOR	G/Y/B/B-Y/R/R-Y OUT	
J6801	QMCC502-C01	DIN JACK		
S6201-03	QSS4C22-C02	SLIDE SWITCH	OPEN↔75 Ω	
S6701-04	QSS4C22-C02	SLIDE SWITCH	OPEN↔75 Ω	

POWER PW BOARD ASS'Y (FX-9038A)

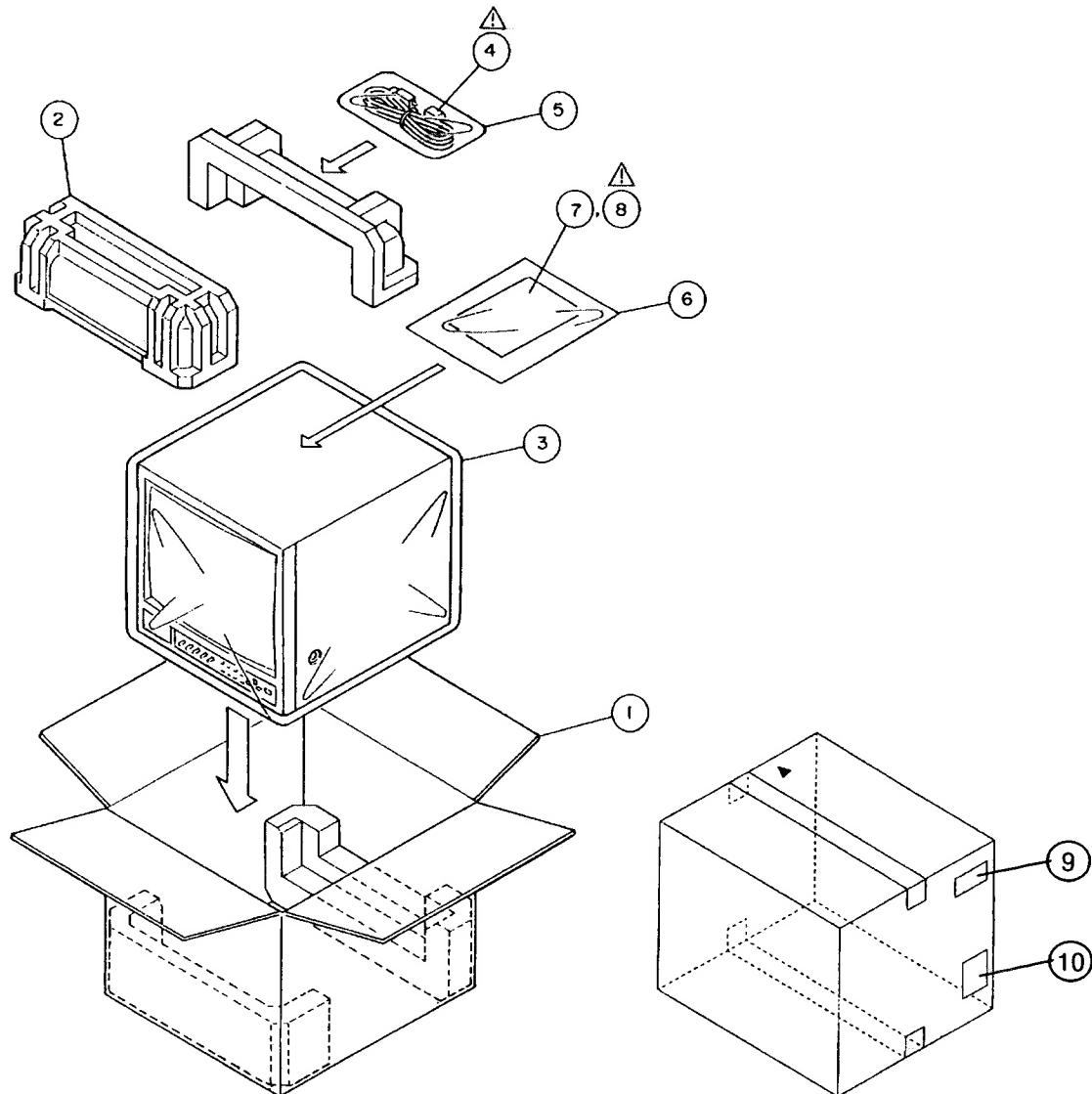
▲ Symbol No.	Part No.	Part Name	Description	Local
VARIABLE RESISTOR				
R9038	QVPC611-102HZ	V R	1kΩ B(B1 ADJ.)	
RESISTOR				
▲ R9002	QRD122J-474S	C R	470kΩ 1/2W J	
R9005-06	QRD123J-104SX	C R	100kΩ 1/2W J	
R9014	QRM059K-R22	MP R	0.22Ω 5W K	
R9015	ORG039J-563A	OM R	56kΩ 3W J	
R9016	QRD123J-182SX	C R	1.8kΩ 1/2W J	
R9030	QRD123J-100SX	C R	10Ω 1/2W J	
R9034	QRV141F-1502AY	MF R	15kΩ 1/4W F	
R9035	QRV141F-1002AY	MF R	10kΩ 1/4W F	
R9037	QRV141F-3901AY	MF R	3.9kΩ 1/4W F	
R9039	QRD123J-154SX	C R	150kΩ 1/2W J	
R9041	QRD123J-154SX	C R	150kΩ 1/2W J	
R9042	QRD123J-153SX	C R	15kΩ 1/2W J	
R9043	QRD123J-184SX	C R	180kΩ 1/2W J	
R9044	QRV141F-3901AY	MF R	3.9kΩ 1/4W F	
R9045	QRV141F-2701AY	MF R	2.7kΩ 1/4W F	
R9048	QRV141F-1501AY	MF R	1.5kΩ 1/4W F	
R9053	QRX029J-R39A	MF R	0.39Ω 2W J	
R9054	QRD123J-3R3SX	C R	3.3Ω 1/2W J	
R9060	QRF154K-4R7	UNF R	4.7Ω 15W K	
R9061-64	QRG039J-123	OM R	12kΩ 3W J	
R9065	QRG039J-223	OM R	22kΩ 3W J	
CAPACITOR				
▲ C9001	QCZ9033-472A	C CAP.	4700 pF FAC125V K	
▲ C9002	QCZ9033-472A	C CAP.	4700 pF FAC125V K	
▲ C9003	QFZ9035-474M	MM CAP.	0.47 μF FAC125V M	
▲ C9004	QFZ9035-474M	MM CAP.	0.47 μF FAC125V M	
▲ C9005	QCZ9033-472A	C CAP.	4700 pF FAC125V K	
▲ C9006	QCZ9033-472A	C CAP.	4700 pF FAC125V K	
▲ C9007	QCZ9033-332A	C CAP.	3300 pF FAC125V K	
▲ C9009	QCZ9033-332A	C CAP.	3300 pF FAC125V K	
▲ C9010	QEZO144-477R	E CAP.	470 μF 400V M	
C9018	QEHC1HM-226MZ	E CAP.	22 μF 50V M	
C9019	QFP31HJ-152SZ	PP CAP.	1500 pF 50V J	
C9020	QEHC1HM-105MZ	E CAP.	1 μF 50V M	
C9021	QFLC1HJ-103MZ	M CAP.	0.01 μF 50V J	
C9022	QEHC1HM-475MZ	E CAP.	4.7 μF 50V M	
C9023	QFLC1HK-222MZ	M CAP.	2200 pF 50V K	
C9025	QEHC1EM-107MZ	E CAP.	100 μF 25V M	
C9026	QFLC1HK-473MZ	M CAP.	0.047 μF 50V K	
C9027	QEN61HM-105Z	BP E CAP.	1 μF 50V M	
C9029	QFLC1HK-333MZ	M CAP.	0.033 μF 50V K	
C9036	QFLC1HJ-103MZ	M CAP.	0.01 μF 50V J	
C9038	QEHB1EM-338M	E CAP.	3300 μF 25V M	
C9039	QEHB1EM-228M	E CAP.	2200 μF 25V M	
C9046	QEHB2CM-227M	E CAP.	220 μF 160V M	
C9049-51	CEX41161-001	E CAP.	470 MF 100V M	
C9517	QETB2AM-477	E CAP.	470 μF 100V M	

Ref.No.	Part No.	Part Name	Description	Local
TRANSFORMER				
△ T9001	CETS003-001	SWITCH.TRANSF.		
△ T9002	CE41856-00A	PULSE TRANSF.		
COIL				
L9901	CELP006-4R7Z	PEAKING COIL	4.7 μH	
L9902	CJ30030-100	HEATER CHOKE		
DIODE				
△ D9001	S4VB60-L15	BRIDGE DIODE		
D9005	RG2A-LFC4	SI.DIODE		
D9006	FML-G12S	SI.DIODE		
D9009	1SS133-T2	SI.DIODE		
D9010	RL4Z-C1	SI.DIODE		
D9012	EG1Z-T3	SI.DIODE		
D9013-14	1SS133-T2	SI.DIODE		
D9016-17	1SS133-T2	SI.DIODE		
D9018-19	RG4C-C1	SI.DIODE		
D9020	1SS133-T2	SI.DIODE		
D9021-22	MA4068(N)C1-T2	ZENER DIODE		
D9023	MA4110(M)-T2	ZENER DIODE		
D9024	RD5.6ES(B2)-T2	ZENER DIODE		
D9026	RD18ES(B3)-T2	ZENER DIODE		
D9027	MA4300(M)-T2	ZENER DIODE		
D9028	1SS81-T5	SI.DIODE		
D9032	1SS81-T5	SI.DIODE		
D9033	RD4.3E(B2)-T2	ZENER DIODE		
TRANSISTOR				
Q9001-02	2SC1959(Y)-T	SI.TRANSISTOR		
Q9003	2SA562TM(Y)-T	SI.TRANSISTOR		
△ Q9004	2SK1118	F.E.T.		
Q9005	2SD1409	SI.TRANSISTOR		
Q9006	2SC1959(Y)-T	SI.TRANSISTOR		
Q9008	2SA1370(E)	SI.TRANSISTOR		
Q9012	2SC1472K(AB)-T	SI TRANSISTOR		
I C				
△ IC9001	FA5301BP	I C		
OTHERS				
△ F9001	QMF51E2-4ROS	FUSE	4.0A	
△ FR9901	QRH127K-R22M	F R	0.22 Ω	1/2W K
△ FR9902	QRH127K-R22M	F R	0.22 Ω	1/2W K
△ FR9903	QRH127K-R22M	F R	0.22 Ω	1/2W K
K9902-03	CE41923-001	CORE SLEEVE		
K9905	CE42050-001Z	CORE		
△ LF9001	CE41775-003	LINE FILTER		
△ LF9002	CE41775-003	LINE FILTER		
△ PC9001	CNY17F-C1	I.C(PH.COUPLER)		
△ RY9002	CESK026-001	RELAY		
△ SW01	QSP4D21-C06	PUSH SWITCH	POWER	
△ TH9001	CEKP009-001	P.THERMISTOR		
△ VA9001	ERZ-C10VK621G	VARISTOR		

V.SAW MODULE PW BOARD ASS'Y (FX-M004A)

Ref.No.	Part No.	Part Name	Description	Local
OTHERS				
	FX-M004A	V.SAW MODULE PW		

PACKING



PACKING PARTS LIST

Ref. No.	Part No.	Part Name	Description	Locat
1	CP11224-A35	PACKING CASE		
2	CP11312-C0A	CUSHION ASSY	4pcs in 1set	
3	CP30974-004	POLY BAG		
4	QMP4908-200K	POWER CORD		
5	QPGAO12-03005	POLY BAG		
6	CP30975-001	POLY BAG		
7	CM23063-001	X-RAY CARD		
8	CQ40026-004	INST.BOOK		
9	CM47385-00A	POS/SERIAL LABEL		
10	CP40344-001	SDI LABEL		

JVC

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